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U. S. DEPARTMENT OF AGRICULTURE

EXPLANATORY STATEMENTS

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WORK UNDER APPROPRIATIONS

a n d

SUPPLEMENTAL FUNDS

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FOREST SERVICE

(a) General Administrative Expenses

The work under this appropriation provides for the leadership, coordination, planning and control of the program of work of the Forest Service. It provides also for the service and facilitating operations which are necessary in the central office relating to finance and fiscal control, personnel management, information and education, business management, procurement, and drafting, as well as for the necessary inspection and audit of field operations. The organization of the general administrative divisions consists of the Chief's office, Fiscal Control, Personnel Management, Information and Education, Operation, and the sections of Forest Land Planning, Drafting and Photography.

The Forest Service has three major responsibilities. They are:

1. The protection, management, development and utilization of almost 180,000,000 acres of land in the national forests, equivalent to approximately 10 percent of the area of the continental United States.
2. The promotion of good forest practices, including the protection of forests, on the 439,000,000 acres of state and private forest lands.
3. Forest and range research for all forest and open range lands.

The primary function of the Forest Service is to carry out the responsibility of the Federal Government in working out solutions of the Nation's forestry problems.

On the national forests this means direct technical management for the production of timber, forage for range livestock, water, wildlife, and recreation. It means the protection of public and intermingled private lands from fire and tree diseases, as well as the integration of the management of all forest resources, in order that they will contribute as fully as possible to economic and social betterment. It means, in short, the administration of the national forests in the broadest public interest and the demonstration of proper forest and related land management.

On the privately owned forest lands, which in major part are being badly handled from a national point of view, it means education, leadership, planning, and coordination of technical information. It means cooperation with the states and private agencies in protection against fire, in forest planting, and in obtaining improved forest management practices.

The attainment of these objectives requires the conduct of a large amount of research in all phases of forestry and range management, both independently and in cooperation with other technical and with industrial agencies. Research in the technique of protecting, improving, and utilizing the forest and range resources and in the profitable use of land

for forestry and grazing is essential to success in the management of forest and range lands. This research deals with problems of broad regional or national scope rather than those of a purely local character and is conducted under the provisions of the McSweeney-McNary and Norris-Doxey Acts.

Operating in three broad fields of activity, through its many field and cooperators' offices, the Forest Service is confronted with a complex and unusually difficult general administrative problem. There are approximately 1,000 field offices of the Forest Service, the majority of which are "one-man offices," where the opportunities for personal contacts with other employees are infrequent. The large number of appropriations under which programs are conducted adds to the complexity of financial management. In recent years there have been 18 regular appropriations and as high as 50 "working fund" advances from other agencies to finance work performed for them. Under these conditions there must be a constant flow of information and instructions from the central office to the field on policy and other matters. There must also be frequent inspection of all operations by representatives of the central office. Coordination of programs both through written instructions and field inspection is an extremely important function of the Chief's office.

The work of the Forest Service is closely allied with that of many other Government agencies, particularly the Soil Conservation Service; Bureau of Entomology and Plant Quarantine; Bureau of Plant Industry, Soils and Agricultural Engineering; Bureau of Agricultural and Industrial Chemistry; Bureau of Agricultural Economics; Public Roads Administration; Fish and Wildlife Service; the Grazing Service and the General Land Office recently consolidated as the Bureau of Land Management of the Department of Interior; The National Park Service; Agricultural Experiment Stations; 40 State forestry organizations; etc. Because of its numerous fields of responsibility and resulting activity throughout the forested sections of all the states and territories, the Forest Service organization is of necessity, as well as a result of thorough study, test, and deliberate choice, very thoroughly decentralized. This policy and practice is illustrated by the Division of Fire Control, which has responsibility for leadership and control (a) over a field force of from 5,000 to 20,000 persons engaged primarily in fire control work, and (b) over expenditures up to 10 million dollars a year. Yet the Division is composed, in the Washington Office, of only 4 persons above the clerical grade. Other functional divisions in the main office are similarly restricted in size.

(b) National Forest Protection and Management

General: This appropriation covers all activities relating to the administration, protection and development of the national forests except those provided for by the special appropriations for roads and trails, for the large forest fires which the seasonal fire organization cannot suppress, white pine blister rust; and forest land acquisition.

Objective: To manage, protect and develop the national forests and to utilize their timber, water, range, recreation, wildlife, and other resources in a manner which will render the greatest possible service to the Nation as a whole.

Problem: Within the national forest boundaries is an area of 228 million acres, of which 179,726,000 acres are in Government ownership. Geographically this area reaches into 40 states, Alaska, and Puerto Rico. Many tracts of privately owned lands are interspersed within the Federal holdings.

The protection and management of so vast an area presents difficulties and complexities not commonly found in many other governmental undertakings. National forests are managed under the multiple use principle. This means that practically all areas are used for, or serve, more than one purpose or objective. For example, 50 percent of the area within the national forests of the continental United States serves five different purposes: (1) timber production, (2) watershed protection, (3) forage production, (4) wildlife production, and (5) recreation. An additional 28 percent serves four purposes in varying combinations. An additional 21 percent serves three purposes. This leaves only 1 percent of the total which is reserved for one purpose exclusively, mainly, campgrounds and special use areas such as summer home sites, pastures, corrals, etc.

The above clearly demonstrates the necessity of careful planning in the management of the national forests, and brings into focus the interests which continually conflict and which must be reconciled by the managers of the national forest properties.

The protection of national forests from fire, insects, disease and trespass is made difficult by the large area to be protected, the general inaccessibility of the national forests, the many thousands of miles of exterior boundary, and the impossibility of taking preventive action when dealing with such a problem as lightning-caused fires (5,107 in calendar year 1946).

Significance: The following is indicative of the economic importance of the national forests:

(a) The area within the national forest boundaries is equivalent to some 10 percent of the area of the continental United States.

(b) Approximately 25,000 sales and permits were granted in the fiscal year 1946 for the cutting of timber from the national forests. These contracts cover periods ranging from a few weeks to ten years.

(c) In the fiscal year 1947 it is estimated that the national forests will produce a cash income to the Federal treasury in excess of 16 million dollars from the sale of timber products, grazing, and land rentals. At the end of February 1947, cash receipts were more than \$1,800,000 greater than the receipts for the comparable period in the fiscal year 1945 -- the record year to date.

(d) They provide range for every 10 million head of domestic livestock.

(e) Nearly 4,000,000 people who live in and near the national forests are supported in whole or in part through the management and utilization of them and their resources.

(f) They provide watershed protection of municipal water supplies for cities and towns with a total population of approximately 6,000,000 as well as water supplies which are immensely valuable to agricultural interests.

(g) They provide a habitat for a large part of the big game animals, birds, and for millions of small game animals and furbearers.

(h) They provide opportunities for healthful outdoor recreation, with a minimum of restrictions, for millions of people, who visit the National Forests to camp, picnic, hike, hunt, fish, swim, ski, motor, etc.

(i) They provide a measure of assurance of a future timber supply. In 1948, it is estimated that 4,000,000,000 feet out of an estimated allowable annual cut of 6,000,000,000 feet will be removed from the national forests. The national forests are assuming increased importance as a source of lumber because of the rapid depletion of timber on private lands.

General Plan of Work: To facilitate administration, the national forest area is divided into 10 regions, 137 national forest administrative units, with 755 ranger districts averaging approximately 300,000 acres in size, or 7-1/2 times the area of the District of Columbia. The personnel of the basic organization, which is charged with the field administration and general operation of these geographical units, is also responsible for the protection of the national forests from fire, insect and tree-disease epidemics, and trespass, and for the integration of their management with economic and social problems of both national and local scope, in order that the natural resources of the national forests will contribute as fully as possible to the solution of such major problems as the production of needed timber

and other forest products, utilization of forage without injury to the vegetative cover, flood control in major and minor watersheds, demands for outdoor recreation by millions of people, and the permanency and continued prosperity of dependent communities. The members of this basic organization manage all activities on their respective geographical units.

The basic organization is supplemented by fire patrolmen and lookouts during the fire season; by temporary laborers for insect control, planting, maintenance, construction, and survey projects; by cruisers, scalers, and lumbermen engaged in timber activities; and by the year-long technicians who are necessary for the proper handling of functional activities such as fire control, timber sales, range management, and reforestation.

Progress and Current Programs:

1. General management, operation, and regulation of national forest properties, including enforcement of Federal laws and regulations applicable to the national forests: This project provides for the basic (skeleton) regional, forest, and ranger district organization, the members of which are directly responsible for supervising, managing, and guiding all of the programs and projects in progress on their respective units. This means they must constantly readjust their programs of work to take into account changing conditions and the impacts resulting from varying economic pressures. They are the active managers of the land and other resources which comprise the National Forests and which constitute a business enterprise of considerable proportions. The business-like administration of these huge properties for the public good is a complicated task requiring the highest type of management in order to coordinate and integrate the many activities which encompass strict attention to such matters as (a) the economic conditions which bring about varying demands for national forest timber and other forest resources; (b) the current protection needs which vary in intensity with the seasons and weather; (c) the periodic handling of emergencies resulting from fires, flood, insects, etc., (d) the shifts in population which are responsible for variations in the intensity of use and demand, etc.

2. Maintenance of improvements other than roads and trails: This is a large and recurrent job entailing maintenance of more than 20 distinct classes of improvements.

These improvements represent a pre-war investment of over 111 million dollars, which can be protected only through adequate current maintenance. Accomplishments, however, are limited by the amount of money available for direct allotment plus some contributed time which can be made available by forest guards and standby crews, who are employed primarily for fire control purposes but who are temporarily assigned to other duties during short intermittent periods when the danger is low.

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During fiscal year 1946, an appraisal was made of the effect of necessary but unfortunate neglect of maintenance work during the four war years. It revealed that many improvements, particularly telephone lines, lookout towers and camp and picnic facilities, had reached advance stages of deterioration. A supplemental appropriation of \$250,000 received late in the fiscal year for recreation needs was devoted to restoration of most urgent character and to provide sanitation and care of areas most heavily used. The greatly increased cost of labor and materials markedly retarded the planned rate of accomplishment with such funds regularly appropriated for this purpose. Accordingly, it was necessary to concentrate efforts upon only the work of highest priority, deferring maintenance already long overdue on the many other necessary projects.

A tabulation of improvements in existence is given below:

	No..of Units (Miles or No.)	Unit Costs	Total Cost of Mainte- nance
Telephone lines	61,433	\$12.72	\$781,428
Fire breaks	5,109	80.61	411,836
Airplane landing fields	63	331.90	20,910
Lookout houses, towers, and observatories ...	2,944	77.25	227,424
Pump sets	530	25.62	13,578
Dwellings, headquarters	1,038	184.75	191,770
Dwellings, temporary stations	2,283	75.33	171,978
Offices, all	732	101.25	74,115
Barns, garages, and warehouses	2,381	66.45	158,217
Fences, headquarters	1,141	52.02	59,355
Fences, temporary stations and plantation ...	2,834	17.62	49,935
Water development projects, headquarters	1,191	48.09	57,275
Water development projects, temp. stations ..	928	22.35	20,740
Gas and oil storage	103	53.14	5,473
Sanitary systems	2,263	20.22	45,758
Light, power, and central heating plants	208	62.26	12,950
Bunk houses, barracks, etc.	673	78.50	52,830
Other improvements, headquarters	3,098	24.55	76,056
Other improvements, temporary stations	3,752	9.03	33,881
Range fences and corrals	22,804	16.81	383,335
Stock driveways, range (includes bridges) ...	6,292	9.61	60,466
Water developments, range	13,282	12.87	170,940
Camp grounds, public service	3,629	123.45	448,000
Camp ground buildings	5,469	37.81	206,783
Water systems, camp grounds	4,502	15.42	69,420
Dams, all types	261	145.27	37,915
Special use facility areas	584	24.80	14,483
Other improvements, miscellaneous	- -	---	161,857
TOTAL			\$4,018,708

3. Forest Fire Control Including Prevention of Fires and Maintenance of a Detection and Smokechaser Organization: The job of protecting national forest resources from fire in 1946, was carried forward under many of the handicaps of 1945 but without appreciable help from military forces and with an increasing load as the lifting of wartime restrictions and increasing travel caused more fires to start.

In overall or national terms, 1946 accomplishments in the forest regions of the United States can be rated as successful. A total of 11,489 fires were fought and the burned over areas were held to a total of slightly under 200,000 acres. This is a favorable showing in terms of past experience, and in spite of many current handicaps. The number of fires increased by nearly 2000 over 1945 and by about 5% over the five year average, yet damage and acreage burned were held well below that of 1945 and were only about 62% of the five year average. The statistics in point show 198,242 acres burned to November 30, 1946. To the same date in 1945, 244,589 acres of newly burned forest land was reported, and 316,664 is recorded as the average for the 1941-45 period.

These overall statistics with their showing of generally favorable overall accomplishment require further examination to give a clear picture of the progress and present status of this public undertaking.

The magnitude of the job in terms of human effort is reflected by the number of fires on which the forest fire organizations went into action. In about half the cases fires were in remote mountain sections. The magnitude of the threat to public property is illustrated too by the area burned in this generally successful year. In total, it represents over 300 square miles of burned over forest land and estimated damage of slightly under a million dollars. The year was characterized by generally favorable weather conditions which contributed much to success in many localities, and by a sharp increase in the number of man caused fires.

However, conditions varied widely by regions. Extremely hazardous conditions developed in many localities and large fires created a good many disasters locally.

In early spring extreme conditions resulted in large fires on National Forests in lower Michigan and a burned area of over 23,000 acres in a few hours. In Arizona, Nevada and New Mexico drought conditions in early June created extreme fire conditions, and inadequate forces had to be pitted against fast running fires that burned an unprecedented area. Reports show 45,000 acres burned in this region. In the southern states there was an increase in number of fires, from 1981 to 2500. But far better success than average was attained in restricting the area burned. A burn of about 54,000 acres is reported from this region. In 1945 58,000 acres was burned by 500 fewer fires.

In California severe fires occurred in high value areas in the northern Sierras in August and September. Over one hundred fires were larger than 100 acres before they were controlled. But such vigorous attack was made on them that there were only 18 of them that were not completely checked during the first night after they started.

In the northwest, severe electric storms in August over the forests in Western Montana, North Idaho, Washington and Oregon caused an epidemic of lightning fires during four critical periods. In North Idaho and Western Montana, 808 fires had to be controlled in quick succession in that month, and over 800 had to be fought in Washington and Oregon during August 20-31.

There was an actual reduction of man caused fires in the northwest but increases in other sections ranging up to 100% over 1945. The grand total number reported this year was 6370 compared to 4702 last year or a 35% increase. This increase occurred in spite of renewed efforts to prevent fires by every means available. It reflects the increase in travel and in use of national forest resources and resumes the pre-war trend of a constantly increasing problem. As the use and value of these public properties increase, constantly increasing effort must be made to avert increased losses.

In the present period the trend of increasing man caused fires is particularly threatening because of the great increase in hazardous forest fuels from intensive timber cutting operations during and since the war period.

Other factors that have created great handicaps in the undertaking and that reduce the prospect of continued favorable progress, are: continued scarcity and low quality of services of available men for forest fire fighting activities; the full application of the forty-hour week to an activity in which the whole organization must be continuously effective during the fire season; greatly increased cost of all operations without corresponding increases in funds; continued inability to replace mechanized equipment at the rate it becomes obsolescent; reduced availability of military and other public sources of assistance.

New advances in methods of fire fighting give much future promise, and can insure new progress as fast as they can be applied.

Increasing use of airplanes in 1946 and the organization of a force of 230 highly trained parachute fire fighters gave further proof of the value of aerial methods in controlling fires in inaccessible terrain, and contributed much to the success attained in the northwest.

Replacement of traditional hand work methods of fire fighting in accessible high value areas, by mechanized equipment such as bulldozers, contributed greatly to reduction of losses in 1946. In California half the fire control line was built by bulldozers, and in the deep south a much increased proportion was built by plows pulled by small tractors. Extension of such methods can insure continued progress.

4. Control of tree and range destroying insects and rodents on the National Forests: Activity of tree destroying insects is in an upward cycle. This is in part due to natural causes and in part to reduced activity in maintaining control over concentration of tree destroying insect populations during the war years on the national forests. The most serious recent outbreak occurred in June 1946 in eastern Washington and northern Idaho. Here the tussock moth, a tree defoliator, suddenly spread over several hundred thousand acres of private and national forest land. Surveys are now under way to determine the extent of damage, the probabilities for additional spread in 1947, and the feasibility of control measures by airplane spraying of DDT.

The other major outbreak of tree destroying insects on the national forests is in the spruce type of Colorado. The spread of these barkbeetles slackened materially in comparison to the three preceding years, but almost a complete kill has occurred in most of the previously infested area of approximately 300,000 acres. In cooperation with the Bureau of Entomology and Plant Quarantine progress was made in determining the life history and possible control measures for this insect, but as yet no satisfactory method for control during its present virulent cycle has been developed. A successful control project, however, has been concluded on a smaller epidemic of this barkbeetle in spruce stands of southern Utah. An outbreak of a similar barkbeetle in the choicest stands of Sitka spruce in southeastern Alaska has just been discovered and is in process of investigation.

A rising level of mountain pine beetle activity in the overmature lodge-pole pine stands of southern Idaho with several scattered epidemic centers is causing grave concern. An attempt in F. Y. 1945 to control the initial outbreak of the current cycle of these insects proved unsuccessful due to the lack of sufficient manpower under wartime conditions. During F.Y. 1946 this outbreak continued to spread, unchecked, and several new centers of infestation were discovered. This situation is now being studied for the purpose of devising an effective and economic control program.

Several smaller and scattered epidemics of ponderosa pine barkbeetles in the Black Hills of South Dakota and the Rocky Mountain area have occurred within the last year. These outbreaks are being checked by thoroughly tested control measures. However, the extent of these outbreaks indicates rather general favorable conditions for insect activity in the overmature pine stands of this vicinity.

The widespread invasion of the spruce budworm epidemic from Canada into the northeastern States is expected to reach national forest lands in New Hampshire and Vermont within the next few years. Measures are being taken to reduce losses and minimize the spread of the epidemic on national forest land through accelerated cutting for pulpwood of the highly susceptible mature balsam fir in this area.

The Forest Service continues to cooperate with the Bureau of Entomology and Plant Quarantine in surveys of insect conditions to detect new centers of epidemics as well as to check conditions in areas where there are known potentially serious insect activity.

5. Timber and Forest Products Sales, Free and Administrative Timber Use, Timber Surveys, Management Plans, and Timber Stand Improvement:

During fiscal year 1946 national lumber production was 28.5 billion feet, a decrease of 9% from the 31.2 billion feet of the previous year. Production declined steadily from 1942 through 1946. Strikes, equipment difficulties, and dissatisfaction over OPA ceiling prices on lumber all contributed to the further decline during F.Y. 1946. The cut under sales and exchanges from the national forests also declined. The decrease was from 3.1 billion in F.Y. 1945 to 2.7 billion feet in F.Y. 1946, a reduction of 13%. The reduction in national forest cut occurred in the first half of the fiscal year and is due to a minor degree to readjustments in production schedules after V-J Day, but primarily to the strike in the Douglas-fir and ponderosa pine areas in the fall of 1945. Since a much larger proportion of the national forest cut comes from this strike-affected area than the proportion this area contributes to national production, the percentage decline of national forest cut is greater than the national average.

Since January 1, 1946 the decline in lumber production and cutting of national forest timber has been arrested, and the trend is now sharply upward. Between January 1 and June 30 the cut on the national forests was approximately the same as for the corresponding period of the previous year in spite of some carry-over effects of the West Coast strike. In the first quarter ending September 30, 1946 of the current fiscal year, the cut from the national forests was 1.1 billion feet, the first quarter during which the national forest cut has exceeded 1 billion feet.

Shortly after V-J Day the Forest Service rescinded its wartime cutting policies and limited its rate of sales to sustained yield cutting capacities, working circle by working circle. During the next six months it became evident there would be a serious gap between national requirements and production of lumber for the Veterans' Housing Program and other reconversion purposes. In response to urgent requests from the Civilian Production Administration and the Housing Expediter, the Forest Service has agreed to permit cutting above sustained yield capacity through 1947 in areas where such overcutting will not seriously jeopardize community stability. An increase in cutting of approximately 300 million feet annually in 1946 and in 1947 is possible under this policy.

The basic cause of the inability of the lumber industry promptly to expand production to requirement levels is lack of accessible stumpage. Because of depletion of private stumpage reserves, the dependency of the industry on supplies from the national forests has increased sharply. Particularly in the West adequate transportation facilities are not available for many large bodies of national forest timber. An access road program is now under way to open up additional national forest areas for cutting. Under this program \$18,900,000 is available for expenditure in F.Y. 1947, \$12,900,000 of which has been allotted to the Forest Service by the National Housing Agency from funds appropriated in the Veterans' Emergency

Housing Act. This program is expected to result in production of 250 million feet in calendar year 1946, 1,100 million feet in calendar year 1947, and 1,300 million feet in calendar year 1948.

The new areas which will be opened up by the access road program will require expansion of sale preparation activities. In spite of efforts by the Forest Service to rebuild its stock of prepared sales which was depleted in the early war years, it has not been possible to get very far ahead of current needs. Expansion of cutting into new areas will further aggravate this problem.

One of the results of the lumber shortage has been a marked increase in sales applications by farmers, ranchers, and local residents for small sales for individual needs. Such sales are typically from 5,000 to 15,000 feet in volume with the purchaser arranging for his own logging and customs sawing. The cost of the administration of such small sales is substantially higher than for regular commercial sales to operators cutting for the general market. However, such sales are meeting critical needs in the more isolated communities which are experiencing extreme difficulty in obtaining commercially produced lumber and result in desirable added production. The cost of accommodating this type of business is becoming a serious problem for the Forest Service in a few areas, particularly in the Intermountain Region.

Currently the Forest Service is making every possible effort to build up the rate of cutting on the national forests to sustained yield capacity, working circle by working circle. It is striving to increase the contribution from the national forests to the national lumber supply problem as rapidly as possible under sound cutting practices and long-term management objectives.

6. Allocation and issuance of grazing permits, supervision of range use by domestic livestock, range surveys, and range-management plans on National Forests:

Range Administration, F.Y. 1946: January 1, 1946 marked the beginning of a new ten-year permit period. All term and annual permits have been reviewed and renewed in all cases where justified by range conditions. The effort to adjust stocking to the safe grazing capacity of the ranges has been continued. Substantial progress has been made during the year in making badly needed changes in stocking and management practices, despite widespread pressure against such moves. Supervision of range use has been intensified, but is still inadequate in many places. The drive for conservative use of all national-forest ranges will be continued.

A good start has been made toward revision of old Ranger District and allotment management plans and preparation of new ones. This effort will be increased in F.Y. 1947.

Issuance of Permits: During the calendar year 1945 permits were issued to 30,000 ranchers and farmers to graze 1,290,332 cattle, 3,896,258 sheep, and 2,960 swine. Because of reductions made for range protection, the total permitted use was slightly under that of 1944.

Receipts, F.Y. 1946: \$2,059,676. This was \$98,950 less than the grazing receipts for F.Y. 1945 due to the grazing of fewer livestock and a slight reduction in grazing fees. The grazing fee rate for calendar year 1946 has been increased to an all-time high of 27 cents per head per month for cattle and 6.25 cents per head per month for sheep.

Range Surveys were reinstated on a small scale in F.Y. 1946 and will be continued at about 50 percent of the prewar level in F.Y. 1947. About 38 million acres are yet to be surveyed.

Cooperative Contacts: Local Forest officers - rangers and supervisors on important grazing Forests - attended meetings of about 800 local associations and advisory boards where plans for handling the ranges were discussed and agreed upon for the coming year. It is planned to strengthen cooperative relationships with livestock associations and advisory boards wherever possible.

7. Protection of the wildlife resources, preservation of forest conditions conducive to the propagation of wildlife, reduction in number of game animals in overstocked areas, wildlife surveys, and management plans: After doubling each 10 years from 1920 to 1940, there are now an estimated 2.3 million big game animals on the national forests. However the estimated populations are now leveling off and unless the big game are subjected to better management, increases on national forests will be checked and the herds starved down to a figure below current estimates. The slackening in the rate of increase is believed to result primarily from the fact that continued overuse of the forage has curtailed the food supply. Many abused ranges on national forest lands cannot continue to support large herds.

At least half of all the national forests have one or more big game overpopulation areas. The last compilation of these problem areas was made in 1944. There has been neither adequate funds nor personnel to check them since, but it is safe to assume that the 194 areas of serious overuse reported at that time are still in the problem class. There are undoubtedly additional areas which have reached a stage of overuse or which are rapidly approaching such a condition. Lack of satisfactory progress is apparent when it is realized that this condition has not improved during the past 10 years. The important role that these game herds play in the economy of the utilization of the national forest forage supply is illustrated by the significant fact that they require two-fifths of all the forage consumed upon the national forests.

On some of the Western national forests, concerted effort has gone into the development, in cooperation with the States and other agencies, of big game management plans for the herds which are oversized and causing rapid deterioration of the range. In Utah, despite the lack of properly trained technicians, some progress has been made. One elk and twelve deer management plans have been approved and signed by the cooperating agencies. The preparation and application of these plans involves much field and office work. The yearlong range of each herd, which is often over 100,000 acres, must be carefully surveyed. Data on the amount of forage and its condition, game numbers, associated uses and values of land,

and other items is accumulated, analyzed, and correlated into a management plan. Obviously the preparation of each plan is a time-consuming job, and continued effort is required to keep it up to date and to insure its satisfactory operation.

The job in the Intermountain Region, of which Utah is but a part, is by no means complete. Moreover, this Region represents but slightly over 16 percent of the total national forest area, all of which has similar problems to a greater or less extent.

The number of national forest users, i.e., hunters and fishermen made the following significant increase:

<u>Year:</u>	<u>Hunters</u>	<u>% Increase</u>	<u>Fishermen</u>	<u>% Increase</u>
1944	840,000		1,450,000	
1945	1,035,000	26	1,922,000	32

This was expected, but since it was not accompanied by a commensurate increase in wildlife management funds and personnel, the fish and game resources did not receive proportionately increased management attention. As in the war years, the Forest Service wildlife work was centered on those projects which were regarded as most essential (1) to maintain existing cooperation programs with State conservation agencies, and (2) to strive towards a reduction of the most serious big game herds where they were too numerous for the food supply and were damaging national forest lands.

Managed hunts, trapping, and fishing was continued on the 30 cooperative wildlife management areas in the Southeast. Forest officers worked with the State officials in determining the game populations, fish management, and in formulating the hunt, trapping, and fishing plans. That this work was heavier is shown by reports of use on these areas generally 40 percent higher than in 1944.

The 179 million acres of national forest land contain 90,000 miles of fishing streams and $1\frac{1}{2}$ million acres of fishing lakes. In addition, the forests afford suitable environment for several million fur-bearers, and great numbers of small game such as squirrels, rabbits, quail, grouse, and turkey. Past appropriations have precluded the possibility of an action program working toward a satisfactory management of these animals and their habitat.

8. Enforcement of sanitary laws, garbage disposal, policing and other requisite measures for safeguarding health and safety of National Forest users: During 1941 improved national forest recreation areas received 10-3/4 million visits and other national forest areas received an additional 7-1/4 million visits. Wartime restrictions on travel, gas and tire rationing and long work hours resulted in much lower use in 1942 to 1944. Recreation use of the national forests increased immediately after VJ-day and it is now reasonable to expect that the figures for calendar year 1946 will at least equal and probably exceed 1941.

Moreover, the rate of use, particularly the increase in winter sports use, makes it necessary to expect higher use yearly and it is conservatively estimated that the use during the fiscal year 1948 will be 12,000,000 visits to improved recreation areas and an additional 9,000,000 visits to other national forest areas.

If simple camp grounds and picnic areas were not available people would be scattered over millions of acres, forest fires would be numerous and damaging, water supplies of cities and towns would be polluted by camp and picnic refuse and the public health of the users would be endangered through the use of water from unprotected sources.

The recreation use of the national forests has grown steadily since the development of the automobile gave this form of use its first impetus; it came because the national forests are widely distributed, include fine forested mountain terrain and are climatically suited to summer and winter recreation. The users come to the national forests for picnicking, camping, skiing, hunting, fishing, swimming, vacationing and other recreation.

The construction of recreation areas was undertaken to meet this situation. Facilities were kept to a minimum and included only those essential for health, safety and protection. Latrines, garbage pits, water systems and fire grates were installed at areas. Community shelters, bathhouses, group picnic areas, and other facilities required by the public were added later as the number of users increased.

At present the Forest Service has available for the expected 12,000,000 visits the following areas:

1. 4,300 camp and picnic areas, covering 35,000 acres with a capacity at one time of 281,000 people.
2. 254 winter sports areas, covering 51,000 acres and having a capacity at one time of 156,000 people.
3. 201 swimming areas, covering 900 acres and capable of being used by 36,000 at one time.
4. 54 organization camps with a capacity of 5,000 at one time.

The job of keeping these areas safe and sanitary requires the hiring of hundreds of short-term caretakers who keep latrines operating and flyproof, collect and incinerate trash, clean out garbage pits at intervals, make minor repairs to tables, fire grates and parking areas, remove fire hazards, give first aid to injured persons, patrol ski areas for slide danger, hunt for lost persons, etc.

Many existing recreation areas are constantly overcrowded and are wearing out. Attractive trees and shrubs are being killed by trampling and the ground cover is turning to dust.

In addition to the Government-owned recreation facilities, there are many recreation developments which have been constructed under special use permit. These include:

500 resorts
300 organization camps
11,500 summer homes

Whereas these are operated privately in accordance with the conditions of the permit, the Forest Service is obliged to supervise their operation sufficiently to insure the safety and welfare of the using public. Regular inspections of water supply, sanitation and fire prevention measures are made.

In addition to the 12,000,000 users of improved national forest recreation areas the above listed privately-owned facilities account for some 3,000,000 visits annually, and another 6,000,000 visits are made by persons using unimproved national forest land for hunting, fishing, hiking, riding, etc.

These visits are not as much of an administrative load on the Forest Service as the 12,000,000 users of improved areas, but constant general supervision is required to safeguard public health and safety, clean up isolated camps, remove sources of pollution and prevent fire.

This work is done largely by short-term campground caretakers, which require 68% of the project funds. The remaining 32% is used for necessary supervisory and planning personnel.

The supervision and planning of recreation areas and recreation use must be carefully coordinated with all other national forest administration to avoid conflicts. Administrative men experienced in general national forest management and with special training in recreation are required to do this job to the satisfaction of the public.

9. Land-use management on national forests, including special uses, easements, land classification, claims - homestead and mining, agricultural listings, plans, land exchange, boundary posting, status records, general surveys and maps, forest communities, and aerial photography: The land use item includes the following entirely separate activities: (1) Special uses, (2) easements, (3) Classification of lands for various purposes, (4) Claims, homestead and mining,

(5) Agricultural listings, (6) Land use planning, (7) Land exchange, (8) Boundary posting, (9) Status records, (10) General surveys and maps, and Aerial Photography, (11) Forest communities.

These activities all require experienced professional supervision and activation. The work must be done by staff men and specialists. Most of the funds for this project are used for the employment of year-long personnel in the Regional Offices and on the forests, with a small supervisory force in the Washington Office.

During the war annual statistical reports were suspended and no record of volume of business is available later than fiscal year 1941, but it is known that the volume of work since 1941 has remained constant, except as for Claims and Classification, in which categories it has increased due to renewed interest in minerals and agricultural lands.

1. Special Uses

As of June 30, 1941, there were in force 44,010 special use permits covering 1,965,267 acres; 6,621 new permits were issued during fiscal year 1941, and 5,738 old permits were terminated.

Special use permits grant private individuals certain privileges on national forest land under certain conditions. A thorough appraisal of the area is necessary to determine whether it is in the public interest to grant a special use permit.

Each special use area must be inspected annually and some more often, to determine that the permittee is living up to the requirements and that national forest interests are protected.

The proportions of the special use business can be visualized by the fact that the annual receipts average about \$360,000.

During the war a great interest in oil and gas leases and mineral permits developed on national forest lands. The Secretary of Agriculture issued 110 leases for which oil companies paid bonuses amounting to \$2,500,000, in addition to yearly rentals of 25¢ to \$1.00 per acre.

Pursuant to Reorganization Plan No. 3 of 1946, the functions of the Secretary of Agriculture with respect to minerals on most lands were transferred to the Department of the Interior, but it is still incumbent on the Secretary of Agriculture to advise the Secretary of the Interior whether a mineral permit is consistent with the purposes for which the lands were acquired and to specify the conditions necessary to protect the surface.

The examination of areas applied for and the supervision of surface protection stipulations in leases and permits issued by the Department of the Interior will still be a large job in the future.

2. Easements

As of June 30, 1941, there were 606 easements in force covering 41,652 acres.

Easements on national forest lands are issued under several acts of Congress by the Secretary of Agriculture and the Secretary of the Interior. Since they grant an interest in the title to the lands very careful surveys are necessary.

3. Classification

Classification involves the segregation of national forest lands for agricultural, recreation and research purposes. The procedure is directed by acts of Congress and Secretary's regulations. It is an exacting work requiring professional skill and expert knowledge of land values and national forest administration.

At present 75 areas totaling 14,000,000 acres are classified as Wilderness and Wild areas, 87 areas totaling 856,000 acres are classified as Experimental Forests and Ranges, and 48 are classified as Natural Areas.

The classification of several thousand acres as recreation areas is being done now.

Areas classified must be carefully examined to determine that they are best suited to the classification and boundaries must be posted and kept posted.

4. Claims - Homestead and Mining

During fiscal year 1941 there were 168 new claims cases, involving 13 hearings, and 107 claims were sent to the Department of the Interior for final action.

Claims must be carefully examined to determine that they are consistent with the law under which filed. Mineral and agricultural experts are often required to protect the interest of the Government.

Hundreds of applications for classification under the Forest Homestead Act are made yearly. These are in effect appeals of the previous classification and require individual attention.

5. Agricultural Listings

During fiscal year 1941, 31 previous listings were recalled. This involves a careful reexamination of an area to determine whether or not it is chiefly valuable for agriculture.

6. Land Use Planning

This work includes planning the effective use of the entire national forest area and involves correlation of the work of all activities. It is a job which necessitates broad knowledge of national forest administration and good land use practice.

7. Land Exchange

During 1946, 77 land exchanges were consummated under the act of March 20, 1922. By these the Government obtained title to 277,822 acres of land suitable for national forest purposes valued at \$1,500,116 and in exchange granted 7,810 acres of national forest land which was suitable for private ownership valued at \$26,456 and stumpage worth \$1,313,196.

In exchanges the land to be acquired and the land and /or timber to be given in exchange are carefully appraised to determine that the public interest is furthered by the exchange. Appraisals must be made by men with professional skill, knowledge of land values and long range national forest management objectives.

8. Boundary Posting

Each year some 1,000 miles of national forest boundary must be located and posted in connection with the normal activities of national forest management.

9. Status Records

The national forests have a gross area of 228,759,969 acres and a net area of 179,726,390 acres. The 49,033,579 acres of interior private lands must be posted on status records, and as acquisition of lands progresses status records must be kept up to date.

10. General Surveys and Maps and Aerial Photography

Accurate maps are essential for adequate and efficient protection, development, and administration of land and resources. These are generally prepared from aerial pictures which serve not only for map production but are valuable for practical resource activities such as fire control, range surveys, determination of the distribution and density of timber, and many other purposes. Seventy-one individual mapping projects were assigned to the Forest Service by the Navy Department on a working fund basis. This activity is being curtailed as individual projects are completed. Mapping of national forest areas is being resumed as men are released from the Navy mapping projects.

11. Forest Communities

Within and contiguous to the national forests are almost two hundred thousand rural families. Of these, approximately 2,500 families occupy national forest land, such occupancy in most instances being in effect at the time the national forest land was acquired. The rehabilitation of the lands and structures thus occupied is regarded by the Forest Service

as a highly desirable objective. Conditions created by the war necessitated a cessation of positive activity in this field, but its resumption at the earliest practicable date is anticipated. Waiver or modification of fees to such occupants as are totally or partially unable to meet them because of the submarginal character of the land and lack of other means of support, was authorized by the Secretary several years ago and continues in effect where proof of such situation is made to the forest officer authorized to make such waiver or reduction of fees.

10. Protection, development and management of the water resources of the National Forests: Increasing attention is being given to the effects of soil and water in resource management on the national forests. This includes grazing lands, timbered areas, barren slopes, certain recreational units, and isolated cultivated fields. The attainment of conditions favoring stability of soils is a prime objective. Land management plans increasingly feature this objective. Recently enlarged plans to revegetate by seeding certain depleted range lands on the western national forests furnish an example. Also, modifications in timber sale contracts on national forest lands which specify important additional erosion control measures have become standardized. A continued drive for effective control of water at its source in the soil mantle is essential not only for watershed management, but also for all phases of land management.

1. The Southwest Region has developed a condensed watershed management course for field men, with emphasis upon soil and water. All land managers have taken this course.
2. The study of one main water drainage on the Tonto National Forest, in accordance with a recently revised outline by the Southwestern Region, is planned for immediate initiation.
3. Special attention is being given toward a study of the Santa Fe municipal watershed which involved national forest lands with intermixed private ownerships and adjacent patented lands outside the national forest.
4. Water resources surveys on the national forests to be used in watershed management plans are being continued.
5. Erosion surveys on many western national forests to be used as a basis for improved and adjusted management to better protect the watersheds involved are being completed as rapidly as possible.

The management of municipal water supplies and watershed areas is receiving increasing attention in the scheme of multiple land management. National Forests supply most of the water for major streams and population centers of the Western states. Water supply will set the limit for ultimate growth and development in much of the West. In the East, too, national forests are important to the permanent protection and assurance of good local water supplies in many areas.

Contributions of data and reviewing of reports by the Reclamation Service on the development of water and resources of the major drainage basins west of the Great Plains, have been and are being made. A large number of snow gage readings and ^{some} stream gage readings have been taken and provided the Soil Conservation Service, and recommendations made for increasing the number of snow surveys for additional information needed in national forest watersheds. Basic data of various kinds have been furnished the U. S. Engineering Division, and assistance rendered this agency on the revision of the snow line as a factor for forecasting water supplies in the Flathead River drainage (Montana).

The United States as the largest individual land owner of watersheds should take the lead in proper management of them. The Forest Service, with an estimated 134,000,000 acres of important watershed lands, has a direct responsibility in its own programs of management. Grazing and timber receipts on these acreages for fiscal year 1946 ran well into eight figures. If direct figures were available for water values, the totals would be much more. As an illustration, the Pike Forest of approximately 1,000,000 acres produces the water for some 425,000 people living within and adjacent to it. The economic value in terms of wages, rent, profit and taxes as a result of this water use is high. The protection and management of the National Forest watersheds materially influence the usefulness of the water yielded from this area.

Over 1,000 towns and cities get all or a large portion of their water supplies directly from national forest watersheds. This not only includes such metropolitan municipalities as Denver, Portland, Seattle, and Salt Lake City, but also dozens of smaller cities and communities. Management on most of these watersheds is no longer a mere protection measure. It involves the present day concept of the value and behavior of water as such. Problems of erosion, pollution, sedimentation, and available water supply are direct responsibilities of watershed management. Scientific water management plans for some of these drainages are now badly needed; more will be needed in the future.

11. Construction of improvements other than roads and trails: During the war period, construction work on the National Forests was negligible. During fiscal year 1946, expenditures for this purpose were confined to a few projects of highest priority -- those which could not be deferred without seriously disrupting protection or vital resource management programs. Included in this category were telephone lines, drift fences, water developments and similar jobs. Projects were avoided which would involve purchase of materials needed in the housing program.

12. Reforestation and revegetation of denuded national forest areas:

Reforestation: During the fiscal year 1946 a small start was made towards increasing the rate of planting on national forest lands, following the curtailment of this work during the war. A total of 17,144 acres was planted and seeded on national forests. This compares with the following acreages planted and seeded during the war years:

F.Y. 1945	6,139	acres
F.Y. 1944	5,010	"
*F.Y. 1943	10,507	"
C.Y. 1942	58,131	"

*Last half of Fiscal Year

Some changes and adjustments in planned nursery production were made to coordinate nursery plans with the 15-year Initial Phase Planting Program. Planned production at two nurseries was substantially curtailed, at one because of a serious root rot situation which must be corrected if the

nursery is to be usable on a large scale, at the other because of a reclassification and reduction of priority of the planting sites supplied by the nursery. At the same time one nursery that was taken completely out of production during the war was re-activated. Engineering and other plans for the development of two new nurseries, one in California and one in Oregon, were pushed with the objective of starting work on those nurseries promptly after the start of Fiscal Year 1947.

The acreage of national forest land set up for planting in the Fifteen Year Initial Phase Planting Program which starts with F.Y. 1947 is 3,200,000 acres. Of this total, slightly over two-thirds consists of non-stocked land which must be planted if it is to be made productive of desirable species within a reasonable period of time. The remaining portion, nearly one-third, consists of partly-stocked land where "fill-in" planting is feasible and where such planting should be done if those lands are to be rendered fully productive within a reasonable period of time. The net total area of national forest land planted to date is approximately 1,223,250 acres, a figure that will probably be subject to downward revision when plantation survival surveys are resumed. The Initial Phase Planting Program will not complete the national forest planting job. There will still be need for planting, the amount depending on planting that should be done on lands added to the national forest system, lands burned over by large fires, necessary planting in connection with sales of national forest timber, and some additional planting on non-stocked lands that are of lower priority than the lands set up for planting in the Fifteen Year Program.

Range Reseeding:

Reseeding in F.Y. 1946 -- A total of 26,700 acres of depleted national-forest range land was reseeded to grasses and legumes in F.Y. 1946. About 86 percent of the area reseeded, or 22,800 acres, was in the Intermountain Region (Utah, Nevada, Southern Idaho, Western Wyoming) where reseedling of foothill and mountain range lands has progressed beyond the trial stage and large-scale plantings are being successfully made. Reseeding work was also stepped up materially in most other western States. Many of the plantings outside of the Intermountain Region were made on a "pilot plant" scale of 40 to 100 acres to try out methods and species which have been successful in other regions and to test the practicability of research results before applying them on large projects.

The areas seeded in F.Y. 1946 are adding new and conclusive evidence that reseedling of depleted range lands pays substantial dividends in increased production of meat, hides, and wool; increased revenues from grazing fees, in stabilizing the livestock industry, and healing sore spots on important watersheds.

Plans for 1947 -- The funds for range reseedling for F.Y. 1947 were increased by \$400,000. This money is being used to reseed only those range types, and under conditions, for which sound reseedling methods have been developed through research and practical application. About 65 percent of the funds will be expended in Utah, Nevada, Idaho, and Wyoming, where research in

reseeding of national-forest range lands has been under way for the longest period, where large-scale reseeding of foothill and mountain lands has been most successful, and where the overall needs are the greatest. However, the reseeding program will be more than doubled in other western States and in the Ozark Forests in Missouri. Highest priority is being given to ranges where an increase in forage will do most to help stabilize existing communities and watersheds where artificial revegetation is most urgently needed to abate critical flood and erosion problems. Plans for individual projects are prepared or checked by qualified technicians, and the work is closely coordinated with that being done by the research organization. A total of 4,200,000 acres of national-forest land are in need of reseeding at the present time. It is planned to reseed about 100,000 acres in F.Y. 1947. At this rate it will require 42 years to complete the program. The project should not only be continued but should be greatly accelerated.

(c) Forest and Range Management

Objective: To discover, develop, interpret, and supply to the public facts on the fundamentals, principles, and practices of forest and range land management essential for the sustained maximum production and use of merchantable wood and other forest products, palatable range forage, and usable, controlled water supplies, and further to integrate and test the economic and operational feasibility of these principles on a practical scale.

The Problem and Its Significance: The continued productivity of our forest area, about one-third the total area of the country, is of major concern to a large segment of the American people. Industries, communities, in fact whole local and regional economies are founded on the harvesting, manufacture, transportation, and merchandising of wood and wood products. With forests properly managed and protected from fire, insects and disease, these wood products can be produced not only on a continuing basis but their quantity and quality can also be materially increased. Improperly handled, our forest land cannot continue to meet national requirements on the present scale. Continuation of present trends of depletion will result in further shortages, including housing and lower standards of living.

The range lands of the West, South and Southeast, both forested and untimbered, furnish an important part of the forage needed to carry the country's near record numbers of grazing animals. These lands and livestock compose a 3 billion dollar range livestock industry, furnishing a high proportion of the sheep and lambs, wool and mohair, and cattle and calves. The continuing, great demand for meat, hides and fiber makes it essential that high production of these products on range lands be maintained, that the range resource be built up to a higher productive condition, and that overgrazing be overcome. Improved grazing management and reseedling of depleted areas are keys to sustained high and profitable production of range livestock.

Forest and range watersheds are the source of much of our water, furnishing about 90 percent of the total available water resource in the West. Water from these lands meets the domestic needs of hundreds of communities, permits the irrigating of many thousands of acres of agricultural land, turns the turbines of hundreds of hydro-electric plants, and provides recreation for an increasing number of people. These areas when properly managed also help protect communities and agricultural lands from destructive floods and harmful sedimentation.

Much of the inadequate progress in improving woods and range practices, in regenerating and protecting the forest and range cover on the nation's watersheds, and in safeguarding the water resource can be attributed to lack of adequate technical information on how to do the job. The tremendous complexity of American forest and range conditions creates such a variety of problems that only research on a national scale yet local in application, can provide the measures to cope with them.

General Plan of Work: Research under this appropriation is conducted through 12 regional forest and range experiment stations. Much of the actual work is conducted on experimental forests or ranges where conditions representative of those found over a considerable area, permit concentration on major problems. A wide variety of detailed studies are made of various forest and range practices and operations in their relation to growth and productivity of the land, to the difficulties of fire control, and to the yield and control of water. Water measurements are continually made on carefully selected drainage basins and the effect of changes in forest and range cover conditions determined. Continuity in work schedules and records is essential to the successful conduct of these investigations. Cooperation will be continued with the various State Agricultural Experiment Stations, the Agricultural Research Administration, and other Federal, State and private agencies.

Progress and Current Programs:

This appropriation is used for research in the fields indicated by the four functional projects: "Forest management", "Fire control", "Watershed management and protection", and "Range management and re-seeding". The project "Experimental forests and ranges", started in F. Y. 1946 and shown as a separate project in the 1947 and 1948 Budgets, represents a new method of regionalizing and integrating research in these different functional fields, and of testing out the results on a practical scale. Funds appropriated for the project "Experimental Forests and Ranges" are used on these areas for practical, large scale tests of results obtained under the four functional projects whereas funds appropriated to these functional projects are used throughout Station territory both on experimental forests and ranges and elsewhere to develop and interpret broad, basic principles and practices. In the following project statements the research phases of progress and current programs both on experimental forests and elsewhere are reported under the appropriate functional headings whereas the progress statement under "Experimental Forests and Ranges" is limited to an account of development and organization phases.

1. Experimental Forests and Ranges.

The Congress provided for the fiscal year 1946 an initial increase for timber, range and water research built around a number of experimental forests and ranges principally in the South. It also requested that for the fiscal year 1947 there be presented a similar program on a national basis that would more fully meet the urgent need for this kind of work. After a thorough study of the situation, a 5-year program for the development of a nation-wide series of experimental forest and range research centers was presented, and the Congress provided for the fiscal year 1947 the increase required for the first year of the program.

The territory of the existing regional forest and range experiment stations has been zoned into a series of areas of about 10 million acres each, each constituting distinctive forest or range conditions in terms of forest or other vegetative types, soils, and general land management problems. These areas are also as nearly natural geographic and economic units as possible. Within each of these areas one or more experimental forests or ranges representative of important conditions have been or will be established. Upon them intensive experiments in timber, forage, and water production and management are conducted and new and better methods tested and demonstrated on a scale representative of the smaller holdings characteristic of most forest land ownership. These experimental areas also provide a place where farm foresters, extension specialists, forest and range land owners and all others concerned can come and see good forest, range and water management in operation and get accurate and specific information on how it is done.

Located at some convenient headquarters point, normally at or near one of these experimental forests or ranges, is a small group of skilled research men with necessary assistants who constitute the research center staff. These men not only operate the experimental forests and ranges but conduct investigations elsewhere within the general area tributary to the research center as may be necessary to meet the research needs of the area. The experimental forests and ranges are thus a distinctive and essential feature of the program but research effort is by no means limited to their boundaries.

A considerable number of experimental forests and ranges had been reserved largely from public lands and a few partially developed prior to fiscal year 1946. Several research centers were established in fiscal year 1946 and more are being established in fiscal year 1947. Additional areas will be needed as the program moves forward. It is expected that these can be set aside from lands in Federal ownership or by lease or other suitable cooperative arrangement from other governmental or private agencies. Full use will continue to be made of all available research facilities and the work will continue to be done in close cooperation with all interested Federal, State and private agencies concerned. Particularly in its more localized aspects, a large measure of cooperation with local groups has been developed.

Experimental forests and ranges now in operation: Prior to June 30, 1946, funds had been made available for starting a minimum program at 34 experimental forests and ranges. During F. Y. 1947, a minimum program was started at 19 new ones, and strengthened on 17 already in operation. Below are listed the experimental forests and ranges where work was begun in F. Y. 1947.

<u>Forest Experiment Station</u>	<u>Experimental Forests and Ranges Established in F. Y. 1947</u>
California	Feather River, Cal.
Central States	Kaskaskia, Ill. Eastern, Iowa
Intermountain	Boise Basin, Idaho Great Basin, Utah
Lake States	Northern Wisconsin Northern Minnesota
Northeastern	Massabesic, N. H.
Northern Rocky Mountain	Western Montana
Pacific Northwest	Pringle Falls, Ore. Eastern Oregon Western Washington Western Oregon
Rocky Mountain	Western Colorado
Southeastern	Georgia Coastal Plain South Carolina Piedmont
Southern	Tallahatchie, Miss. Central Louisiana South Alabama
Southwestern	

2. Forest Management

Under this project emphasis is being put on pilot-plant tests of good forest management methods learned through earlier research. Large scale trials on experimental forests will prove whether or not treatments that gave good results on the small sample plots used in basic research will work out successfully and be economically practical when used as a forest owner will use them in managing forests for profit. At the same time intensive research is being continued to learn better ways to reproduce forests, make them grow more rapidly, and yield better wood and other forest products. Findings from these studies will be the basis for tomorrow's pilot-plant tests.

Examples of recent accomplishments follow.

Practical applications of good forestry practice: On the Crossett Experimental Forest in southern Arkansas a 40-acre "Farm woodland" has been under management since 1937. This tract is treated as though it belonged to a farmer interested in making yearly harvests of timber products for his own use and for sale. The annual growth from the 40-acre tract has not been overcut, but on the contrary the growing stock has been gradually increased. To date the stumpage value of the forest products removed has averaged \$3.99 per acre per year for the whole tract. Records of the amount of labor that has been used in felling the trees and preparing them for sale show that the farmer would have earned \$1.13 per hour for his work in the woods. (This figure is in contrast with the 15 to 30 cents per hour that a cotton grower gets for producing his cotton crop.) This and larger scale research at Crossett is being used as the basis for short term training schools at which private, State and Federal foresters are brought up to date on new methods and practices.

Nearly 7 million board feet of ponderosa pine was sold in 1945 from 1500 acres of the Blacks Mountain Experimental Forest in California. Most of the trees cut were large, overmature, and liable to be killed by bark beetles. This large-scale timber operation is proving that such a cutting can salvage merchantable trees that would be killed by insects within a 5 to 10 year period and that the operation can be conducted at a profit.

In Puerto Rico the need for all the products of the forest is so great that it is possible to put into immediate practice the latest findings of the Tropical Forest Experiment Station. On that island technical management has already caught up with research, and increased benefits from forestry wait only on further findings of research men.

New facts about natural reproduction: Selective cutting in the northern hardwood stands of the Lake States region insures a steady flow of high-quality material. Yellow birch is one of the most valuable species in that forest type and although it reproduces readily when the stand is clear cut, the management of the forest under the usual selection system results in a lower percentage of yellow birch in the new stand than was present in the old. Experiments, however, have shown that if a modified selection system is used in which clearings from .05 to .10 acres are made, yellow birch seeds in successfully. Larger clearings have been found to be less successful because they encourage growth of brush which chokes out the yellow birch. This kind of group selection cutting combines the advantage of uneven-aged management with the successful reproduction of yellow birch.

Aspen which was formerly considered to be a worthless weed tree, is now of considerable value for pulpwood in the Lake States. Dependable reproduction by root suckering almost invariably follows fall and winter cutting operations. However, since aspen must be peeled to be accepted by the pulpwood companies, it is desirable to cut it in spring and summer when the bark "slips". During those seasons, unfortunately, very little sprouting from the roots occurs. In one area which had been cut in the summer but had not reproduced during the subsequent 3 years, it was found that cutting surface roots induced sprouting. The practical solution to reproducing this area was found to be disking with an Athens plow. This method holds great promise in reproducing areas which otherwise might not grow back to aspen.

Rodents are a controlling factor in the reproduction of Douglas-fir in the southwestern states. Following the elimination of rodents by the use of poison bait and by the removal of the slash in which they breed, a good stand of Douglas-fir became established in an area where natural reproduction had previously failed entirely.

New facts about timber stand improvement: Experiments at the Lake States Station show that a specific type of thinning can increase the pulpwood yields of jack pine stands by as much as 20 or 25 cords per acre in the first 50 years of the stand's life. If only 1/2 of this increase could be realized throughout the jack pine type in the Lake States, the pre-war cut of pulpwood in that region could be maintained in perpetuity.

In the northern hardwoods stands of Pennsylvania it was found by the Northeastern Station that forests growing at an average rate of 1 cord per acre per year before thinning could be made to grow at the rate of 1.86 cords per acre per year after thinning. Tree vigor was found to be the best indicator of potential growth after release.

The removal of trees of poor vigor increases the rate of growth of the stand in spite of the reduction in number of trees per acre.

At the Tropical Experimental Forest it was found that young mangrove stands thinned to a basal area of 38.50 square feet per acre grew in 7 years to a basal area of 96.85 square feet. This increase is at the rate of 14 percent compounded annually.

The Northeastern Station has concluded that if controlled burning is to be used in the South Jersey pine region to check the succession of old field pine stands to hardwoods, burning should start before the hardwoods are more than 2 or 3 feet tall. Taller hardwoods will survive the burn and sprout vigorously. When bounded by roads and other barriers to the spread of fire, the stands can be burned over for as little as 3 cents per acre. If hardwood seed sources threaten to seed them up, burnings should be begun as soon as the pine stands are 25 years of age.

At the Northeastern Station a basic principle for reducing the hazard of spruce-fir forests to infestations of the spruce budworm has been worked out. This consists in removing from the stand the over-mature balsam firs which are the most susceptible to attack by the insect. For the State of Maine a forest type map has been prepared on which areas characterized by large volumes of over-mature balsam are indicated. These maps will be of assistance to private land owners and others in planning for cutting so that the most risky areas can be cut over first, thus reducing the possibility of a wide-spread infestation.

At the California Station studies were continued on the Blacks Mountain Experimental Forest in the reduction of mortality from bark beetle attacks. Where silvicultural control treatments had removed susceptible over-mature ponderosa pines the average mortality from bug kill during 1945 was only 1.4 bd. ft. per acre per year while in untreated virgin stands mortality amounted to 16.1 bd. ft. per acre.

Improvements in tree planting and nursery practice: Experiments in storage of forest tree seeds were carried out at the California and the Southern Forest Experiment Stations. At California about 60 different species were tested and differences in reaction to cold storage was found between seeds having thick and thin shells. The Southern Station learned that although stratification in moist soil and chilling will hasten the germination of southern pine seeds, such treatment may be injurious and in some cases has resulted in as much as 60 percent reduction in germination. They recommend that preliminary germination tests should be run for each new lot of seeds to determine whether or not stratification is needed. The treatment should be used only when germination without it is below par. If moisture content of pine seeds is kept below 10 percent seed storage below freezing has been found to be safe. Heretofore it was assumed that such low temperatures would be injurious to seeds and it has been necessary to seek out refrigerator storage space which maintained temperatures above freezing. Such storage facilities are much less common than below-freezing plants.

At the Northeastern Station studies were continued on methods of revegetating eroded lands. It was found that spring planting is better than fall, that mulching is valuable for fall planting and for direct seeding with pine and is essential on unfertile sites. Of all the species tested black locust is the only one which responds vigorously to fertilizer used at the time of planting. With this species the cheaper bar-planting with fertilizer was found to be as good as the more costly planting in large fertilized holes, except on the most compact soil.

Nursery studies at the same station showed that cloth covering for fall sown seed beds is somewhat better than the use of organic litter as a mulch. The use of organic composts in nursery soil improvement resulted in as good first year seedlings as did the use of mineral fertilizers and the injury caused was considerably less.

The pre-conditioning of planting stock so that it will be more drought-hardy after planting in the field has been the subject of investigation at the Northeastern Station. The use of liquid fertilizer on loblolly pine seedlings before lifting was found to result in 20 percent increase in survival. With other species this treatment had erratic results. The use of growth regulators to stimulate root growth, delay top growth, and thus increase drought resistance was unsatisfactory because the growth regulating substance often caused injury to the planting stock. However, coating the tops of trees to be planted with wax or lanolin reduced transpiration and resulted in a 10 percent increase in survival. The cost is less than 10 cents per thousand trees and may result in considerable saving in the expense of replanting. Growth regulating substances were successfully used to keep hardwood planting stock dormant while in unrefrigerated storage. Similar treatment unfortunately resulted in injury to coniferous planting stock. This finding makes it possible to store hardwood planting stock cheaply until it can be used most advantageously.

At the Southern Station the value of several species in forest plantations has been demonstrated. Areas planted with a mixture of longleaf and slash pines were purposely burned over, two years after planting. Longleaf is resistant to fire and 90 percent of the longleaf trees were alive after the burning, but only 17 percent of the slash pine survived. In a similar plantation hogs destroyed 97 percent of the longleaf but left the slash untouched. It would take both fire and hogs to completely destroy a mixed planting of these two species.

The problem of reforesting spoil banks left behind by strip mining of coal in the Ohio Valley and adjoining states is being attacked by the Central States Forest Experiment Station. Headquarters for the work have been set up in Athens, Ohio, Urbana, Ill., and Pittsburg, Kansas. Meetings have been held with State Forestry and agricultural interests and coal producing associations to work out plans for research to be undertaken. Reconnaissance work has been begun in a number of states, and experimental tree plantings have been started. A study of the effects of levelling spoil bank ridges in some areas showed the levelling decreased the ability of the spoils to absorb rain-water; for example, 80 percent of the water falling on the unlevelled ridges filtered into the soil and 20 percent ran off; but where the ridges were levelled only 12 percent was absorbed and 88 percent ran off. If the spoil banks are to be used for forestry purposes, it is better not to adopt a uniform policy of levelling until more is known of levelling effects on all types of banks.

Developments in forest tree genetics: At the Institute of Forest Genetics, a branch of the California Forest Experiment Station, a number of hybrid pines have been developed with growth rates superior to one or the other of the parents. Seed of these hybrids is being developed so that they can be tried out extensively throughout the range of the slower growing parent. Some of the hybrids grow more rapidly than either parent and in one case the hybrid increases in weight more than 3 times as fast as the better of the two parents.

Prior to 1939 only 1.4 percent of the crosses between pine species tried at the Genetics Institute were successful. In 1944 crosses were 21.1 percent successful. The increase in successes was due to gains in knowledge of the relationships between pine species brought about through basic studies of the phylogeny of the genus.

Naval stores research: At the naval stores research center in northern Florida, pilot plant tests showed that chemical stimulation of gum flow brought a net profit of about \$1300 per crop in 1945. A scheme for the coordinated production of naval stores and timber advocated by the Southern Station calls for the chipping of trees which are to be removed from the stand in thinning. Methods have been devised for obtaining large quantities of gum from these trees as quickly as possible. The use of two faces simultaneously plus acid treatment makes it possible to obtain in one or two years as much gum as would be produced in three to five years under the usual methods. This scheme makes it economically feasible to chip fewer than the usual number of trees per acre.

Fundamental studies in tree physiology have shown that after 4 years of heavy acid treatment the roots of pine trees have more sugar than untreated trees. The reason is not known, but it indicates that in any event chipping does not deplete food supply. Two years data on adjacent treated and untreated stands show no increase in mortality or dry face after treatment with acid.

3. Fire Control

Research under this project has contributed much to the nation-wide forest fire weather forecasting system. It continues to supply technical help in the maintenance of the weather stations where data basic to the forecasts are gathered, and to improve the methods used in making and using fire-danger measurements. More and more attention is being given to the use of prescribed fire as a tool for reducing risk of wild fire and as a means of controlling forest stand composition. At the same time studies are being made of the fundamental laws of combustion, the factors that influence the spread of fire, and of the damage that fires do to timber.

The use of prescribed burning to decrease the risk of loss from wild forest fires has been the subject of investigation at the Southern and Northern Rocky Mountain Stations. Comparisons of cost of burning areas of inflammable slash in the Northern Rocky Mountain Region with the extra cost needed to protect these areas from accidental burning showed that the use of controlled fires to consume the slash was justifiable only in the most highly inflammable fuels. There are about 700,000 acres of such high hazard fuel in the region.

At the Southern Station studies of methods to be used in prescribed burning in the longleaf pine type, where dried vegetation becomes very inflammable, have resulted in the reduction of costs of prescribed burning to 7.35 cents per acre at the same time damages from the burning have been reduced to 21 cents per acre. Already some 250,000 acres of National Forest land in this region have been treated by prescribed burning.

At the Lake States Station data collected on the costs of fire control indicate that a minimum cost-plus-loss is obtained when 3.75 cents per acre is expended in normal years. During years of worse fire weather this ideal expenditure may be as much as 4.5 cents per acre.

At the Pacific Northwest Station detection of forest fires from airplanes has been aided by a study of the visibility of smokes as seen from the air.

4. Watershed Management

The basic effort in this project is to determine by tests and measurements how watersheds function in producing water, and how the kind and character of the cover, and its protection and treatment affect this production. Watershed management recognizes that water is a resource and a product of the land, and that the kind of treatment accorded the land and its cover can materially affect this resource. Improper management can result in waste and damage, good management can produce high quality water of great usefulness. Watershed management also recognizes that the soil is a resource and again that handling the cover can result either in preservation or destruction of this resource.

Water resources wasted by abused land: Summer rains in the great interior basin of the west are of high intensity and were believed to be a source of potential water supply. Utah studies reveal these summer rains are largely wasted. About 60 percent of the total flow from small sharp drainages in central Utah are wasted because of the condition of the watershed. On areas with adequate cover treatment and soil protection, much of the water is absorbed into the soil mantle and reappears later as desirable flow. On abused lands, the flash run-off carries silt and the flood peaks cannot be used. Even grass areas that had burned over a year previous to these high intensity storms can produce flood run-off of damaging proportions. By contrast, under good cover and with proper soil treatment, even a rain with tremendous intensities of 12 inches an hour produced no damaging run-off.

Another recent finding from Utah concerns the relation of seasonal soil moisture changes to the storage and run-off of water from snow melt. A 6-foot deep, north facing soil mantle, for example, was found to hold 22 inches of moisture, of which 14 inches was removed each year by evaporation and transpiration. These annual losses to water yield amount to around half the total precipitation from October 1 to March 31. Recommended improvements in snow sampling site selection and methods are expected to increase considerably the accuracy and monetary value of annual water supply forecasts.

Evaluating watershed damages: Data from the San Dimas Experimental Forest of southern California are finding new uses. A study begun this past year of methods of appraising fire losses is producing a sound procedure for evaluating damages to water values resulting from chaparral fires of different sizes and locations. The method, based on experimental data, is now being applied to 150 separate watershed units in the chaparral zone. It will provide a positive base for determining the desired intensity of fire control when water production and delivery are primary or important factors.

New soil instruments developed: Experiment with the San Dimas lysimeters has resulted in the development of a new type of soil-moisture measuring device. A small unit is placed in the soil at any specified depth with wires leading to the surface. An electronic device carried from place to place and hooked to the wires at the soil surface determines the soil moisture and the temperature almost instantly, and what is even more important, accurately at critical values. This eliminates much of the work of extracting soil samples, weighing and drying them to obtain soil moisture. The instrument is this year being tested in other areas of the country under other soil types and climatic conditions.

The scientists have also produced a new type of tensiometer, a device to maintain soil moisture in a block of soil at a predetermined moisture content. Heretofore, plant physiologists in lysimeter operation have been unable to prevent the accumulation of water along the bottoms of the plant containers because of the impossibility of naturally breaking the surface tension of the water. This also produced "perched" water tables in the block of soil so the worker could never be certain that the moisture throughout his soil approached that of natural soil. By use of the Colman tensiometer the moisture of the soil inside the block can be kept the same as that outside. This device, and the one for electrically measuring soil moisture promise to revolutionize much plant research.

Logging damages water values: At the Coweeta Watershed Experimental Forest in North Carolina, the results of logging by small operators are being closely studied. Considerable evidence is accumulating that logging as currently practiced throughout the Appalachian region does far more damage to the soil and water resources than is generally recognized.

5. Range Management and Reseeding Investigations

Research in management and reseedling of range lands, the primary Federal responsibility for which is vested in the Forest Service, seeks to develop improved methods of using and restoring forage on the country's 900 million acres of range lands. More than half of the nation's cattle and calves, and three-fourths of the sheep and lambs are raised in the range country of the West, South and Southeast. Many range animals go direct to slaughter while others which make their growth on range lands, constitute the raw material for the large feeding industry and the profitable use of farm products in the Corn Belt and other feeding centers. Full forage production on range lands

and better use and maintenance of this forage are essential for the continued high production of meat, hides, wool and other livestock products needed for the economy and prosperity of the country.

During World War II, ranchers and farmers produced record amounts of livestock products. As a result of a better understanding of good management practices, they largely avoided the overstocking of ranges that, during World War I failed to provide the increase in production needed and resulted in serious damage to the range resource. During the 1942 to 1945 period annual slaughter averaged 30 million cattle and calves and 25.7 million sheep and lambs compared with 23.8 million cattle and calves and 12.2 million sheep and lambs annually during the World War I years.

The past five years of all-out production from range lands in the face of labor, feed and equipment shortages and other war born difficulties, however, has left its mark on the country's range lands and the range livestock industry. Range livestock numbers are still out of balance with available range forage which, over a long period, is the key to the stability of the range livestock industry. The total number of animal units principally dependent on range in the West is only slightly below the 15.3 million peak reached on January 1, 1944, and is higher than at any previous time since 1920. This intense pressure for range and the fact that forage production on many ranges could and should be increased by proper use, makes the development and application of efficient management practices more urgent than ever.

Examples of accomplishments include:

Increased meat production and better use of forage: At the Desert Experimental Range in Utah a study of water requirements of sheep and of damage to winter range resulting from the use of permanent watering places has demonstrated the feasibility of hauling water to sheep. Trampling of range is reduced, forage is more uniformly used, and sheep are provided fresh feed at all times and maintained in better condition. The benefits to the range and sheep far outweigh the cost which ordinarily runs from 6 to 12 dollars per day for a band of 2,500 head.

At the U. S. Range Livestock Experiment Station in Montana one phase of cooperative cattle grazing studies was terminated with the sale of the 60 experimental cows last November. The salvage value of cows from heavily stocked range was only \$76.21 per cow, compared to \$88.90 for cows from conservatively stocked range. This advantage of conservative over heavy stocking amounted to \$12.69 per cow, or \$1.59 per cow year for the 8 year period. Conservative stocking also produced 6 percent bigger calf crops and greater calf weaning weights by 28 pounds, than heavy stocking. A net saving in feed costs of \$1.48 per cow year resulted from conservative stocking. In addition, the heavily stocked range deteriorated but conservative stocking maintained the range in good condition.

Further evidence of the undesirability of too heavy stocking of northern mixed prairie ranges has resulted from cooperative sheep grazing studies at the U. S. Range Livestock Experiment Station. Less than half as much valuable perennial grass herbage was produced on heavily as compared to conservatively stocked range after six years of sheep grazing. Low value annual plants increased many fold under heavy stocking. Accelerated movement of top soil, particularly on slopes, occurred under heavy grazing, and yearling ewes gained significantly less weight during the average grazing season than similar ewes on conservative and lightly stocked range.

Summer ranges in northeastern California consist of intermingled meadow, sagebrush and open pine-grass types which cattle tend to graze unevenly with resulting light use of the timbered range and damage to the valuable meadows and sagebrush areas. Studies at the Burgess Springs Experimental Range have shown that full use can be made of the pine-timber range without damage to the meadow type by good management, conservative stocking and proper fencing. The total gain per head for the season was 205 pounds on the pine-timber range in contrast to 186 pounds on the meadow range. By indicating how to get more value from timbered ranges, these studies point the way to more forage and greater stability for California cattlemen.

Aids to determining range condition: One of the first steps in improving ranges and obtaining better management is recognition of the productive condition of ranges and whether they are improving or declining in condition. Criteria for judging condition and trend have already been developed for shortgrass ranges of the Central Plains, sub-alpine grasslands of Oregon and Washington, Intermountain alpine ranges and other important range types. Similar guides are urgently needed for all of the major western range types. During the year such guides have been developed for mountain meadows, which can produce 1/5 of the summer forage in Oregon and Washington, and for ponderosa pine ranges which cover 4 million acres in Colorado. Field work has been completed for adapting general score cards of range condition and trend in the Southwest for use specifically on the extensive pinon-juniper type. These guides enable stockmen and range administrators to check their management practices and take steps where needed to increase their efficiency so that ranges will improve under proper use.

Range fertilization and control of noxious plants: Range research has demonstrated the possibility of improving ranges and increasing forage production through fertilization. At the San Joaquin Experimental Range in the Central Valley of California, gypsum, applied at the rate of 250 pounds per acre, increased forage production 1,300 pounds per acre annually in 1944 and 1945. The increased yields consisted largely of native clovers. The forage was more palatable and doubtless more nutritious on treated than on untreated ranges. Costs varied from \$1.00 to \$1.50 per acre, exclusive of hauling and spreading charges and were justified by the increase in yield and palatability of forage.

Further progress was made in determining methods of controlling southwestern noxious range plants. For example, burroweed can be eradicated by burning, mowing or grubbing between May 1 and September 30, followed by deferred grazing and reseeding to good forage species where necessary. Sodium arsenite is effective for killing juniper and either sodium arsenite or diesel oil for cholla cacti. Treatment of ranges where such low value plants are numerous increases forage production, simplifies the handling of livestock and provides better soil protection.

Supplemental feeding and herd flexibility: A large proportion of the cattle in the Southern and Southeastern Coastal Plain graze on forest range at least a part of the year. Studies in Louisiana, Georgia and North Carolina show that about 25 range plant species are of importance in the cattle diet throughout the year, but 15 of these furnish more than 90 percent of the grazing. Nutritive values of the native forage are adequate for good cattle gains during spring, but barely enough for animal maintenance in summer and fall, and far below maintenance in winter. These research results indicate the value of grazing systems which capitalize on the high but inexpensive grazing values of forest range in spring, and provide winter supplemental feed to keep herds fully productive. This and other improved management practices which have been developed offer real opportunities in cattle grazing in the South and Southeast--reduced death losses, larger calf crops, heavier calves at market time, and greater profits without damage to the timber,

A flexible plan of herd management in the Southwest and other semi-arid range areas is desirable and necessary to avoid heavy losses during drought, according to a recent summary of research results at the Jornada Experimental Range. Conservative stocking will reduce death losses from starvation and provide some leeway for necessary herd adjustments, but even so, some financial loss often occurs during drought due to forced sales on a glutted market. The flexibility of an operation depends upon the proportion of breeding cows in the herd. Breeding cows are often hard to move or sell in an emergency while steers or dry heifers can usually be marketed more readily and profitably. The best balanced herd is a flexible one, consisting of only 45 to 55 percent breeding cows. Additional cattle, preferably steers, can be put on the range to utilize surplus forage when available.

Reseeding research guides extensive plantings: With the intensification and extension of reseeding research to all Western States and to a more limited degree in the South and Southeast, the use of reseeding to improve forage production on range lands was advanced. Problem analyses were prepared to delimit the most needy areas, and experimental plantings were made to determine adapted species and efficient planting methods on more than 50 areas, representative of a wide variety of conditions throughout the range country. Guidance, based on available information from limited local trials and adaptation of research results on comparable areas elsewhere, was extended to the planting of 26,030 acres, mostly as small pilot test plantings, on western national forests.

In Utah and Idaho, where reseeding research has been underway longest, over one-half million acres were reseeded last year in accordance with tested procedures. This will provide for carrying approximately 214,000 cattle or 892,000 sheep through the critical spring period where only one-tenth that number could be carried satisfactorily before seeding.

Thirteen hundred acres of aspen and oakbrush range in Utah was reseeded experimentally by airplane in 17-1/2 hours flying time at a cost of \$2.68 per acre. Satisfactory distribution of the seed mixture at about 12 pounds per acre was obtained, and falling aspen and oak leaves provided covering for the seed. In Montana a 225 acre burn on the Cabinet National Forest was also successfully seeded by airplane. Ashes provided a satisfactory covering for the seed mixture on this area. The cost of seed and flying service was \$1.20 per acre. Other trials have shown that falling aspen leaves or ashes provide suitable covering for seed distributed from airplanes, but that without such covering, success is uncertain.

Improvements have been made in sagebrush removal equipment which render these implements more efficient for work on rough or rocky range land. The Wheatland plow, a heavy one-way disk used by dry farmers, has been strengthened to prevent excessive breakage and improved hitch adjustments have been made to reduce draft. The efficiency of several types of rail drags was compared and the basic design modified, including the addition of a scalloped cutting edge, to secure better kills of sagebrush at less cost.

Recent research has shown that natural recovery of abandoned farm land in Colorado and other parts of the West frequently requires 20 to 40 or more years, whereas good forage can be reestablished in a year or two through artificial reseeding. Successful reseeding to adapted species will provide a cover of vegetation that will quickly provide abundant forage and stabilize the soil.

Successful reseeding of many southern ranges depends upon control of low value plants such as scrub oak to reduce plant competition for soil nutrients and moisture. Promising control methods not poisonous to livestock include spraying with solutions of ammate and 2, 4-Dichlorophenoxyacetic acid on sprouts and applying ammate solutions and pure crystals in frills or holes at the base of trees. Fertilization of seeded areas provides an additional stimulus to forage production. Unseeded and unfertilized plots produced only 3,459 pounds of air dry herbage per acre, compared to 7,097 pounds on plots seeded to common lespedeza and fertilized with calcium metaphosphate. Fertilization on unseeded but burned over areas increased the palatability of range forage as evidenced by the heavier utilization by cattle on such areas. Methods also have been developed for planting carpet grass on plowed fire furrows. Application of these findings will not only increase forage production but enlarge the acreage of usable range and reduce the fire hazard.

(d) Forest Products

Objective: To provide the research and technical services required for the harvesting, conversion, conditioning, protection and development of forest products to further increase their usefulness and worth.

The Problem and its Significance: The demand for forest products continues to far exceed the supply and this condition will prevail for a number of years to come. This heavy demand is accompanied by a great many problems that require solution.

To help meet the great need for housing, increased supplies of suitable lumber and other wood products are required. Improvements are needed in the operation of small mills to expand production and improve the quality of the lumber. Efforts must be continued to increase the amount of adequately seasoned lumber going into houses if owners are to avoid the troubles that occur when green or partly dried lumber is used. Improved techniques in the use and protection of lumber and plywood in conventional and prefabricated houses are essential to lower construction and maintenance costs and to increase owner satisfaction.

The fuller utilization of the tremendous waste that occurs in the woods, at sawmills and in wood-using industries would do much toward relieving the shortages of forest products. New and improved harvesting and chemical and mechanical conversion methods must be developed to increase the utilization of waste for the production of useful goods. One promising outlet for sawdust, shavings and bark is for insulating type wallboards. Research in this field has indicated some very promising leads and the problem is being given intensive study.

There is need for more information on the utilization of additional species and waste wood of various types for pulp to help relieve the paper shortage. Improvements in pulping processes are also needed to increase the yields and improve the quality of pulps from the woods now being used.

The heavy requirements for treated poles for the construction of new electric power and communication lines and for the maintenance of existing lines cannot be met by the species and preservative treatments that have been in general use heretofore. The species base for poles has already been expanded and further expansion is desirable. To do this, information on strength, seasoning and treating characteristics is required on species that appear promising for poles. The shortage of standard preservatives makes it necessary to determine the effectiveness of new materials that hold promise as pole preservatives. There is also need for a simple, inexpensive, and effective method for treating fence posts and other farm timbers to increase their life.

Uses must be found for the many species which for various reasons have little or no commercial value today. Their utilization would contribute materially to relieving shortages. Many species once unpopular

now find ready markets because research showed how the barriers that stood in the way of their utilization could be removed. Continuing research is needed to find outlets for more of these neglected species. We must also find markets for the large quantities of disease- and fire-killed timber now being left in the woods.

In order that wood may serve more satisfactorily and economically in engineering structures, where it has always been used extensively, new information is needed on selection, storage, fabrication, design criteria, and protection against deterioration.

General Plan: In fiscal year 1947 about 85 percent of the research and technical work is being done at the Forest Products Laboratory, Madison, Wisconsin. The remainder is being done at the forest experiment stations having forest utilization service units.

Examples of Progress and Current Program:

Conditioning and protection of wood products: This project has to do with seasoning, bending, and the control of moisture content of wood products; the improvement and development of techniques for the production of veneer, plywood, laminated wood, and other glued products; and the protection of wood against weathering, fire, decay, insects and marine borers.

More dry lumber for housing: Buyers are in for trouble when green or partly dried lumber is used in house construction. Every effort should be made to see that properly dried lumber is available to meet the requirements of the nation's present housing program. One of a number of methods by which the Forest Service is contributing toward this end is through instruction. Classes in kiln drying methods conducive to increased output of dry lumber with a minimum of degrade losses and at reasonable costs are being conducted at industrial centers and at the Laboratory.

Publications on housing: Two articles, "Glues and Gluing in Prefabricated House Construction" and "Increasing the Fire Safety in Houses" were prepared and published.

Fire-retarding insulation boards: A preliminary study of the flame-spread characteristics of 20 commercial interior fiber insulation boards was completed. Several test methods were used in evaluating boards as furnished by the manufacturers and after the application of different fire-retarding preparations. When applied in adequate amounts several of the preparations were found sufficiently effective to permit representative boards to meet the flame-spread requirements of Federal Specification for "slow burning" classification.

Faster gluing with radio-frequency heating: To apply the speed advantages of radio-frequency heating to the setting of glues in wood products - the glue sets in seconds rather than hours - methods were devised using such heat, including design details for necessary

electrical equipment, and inexpensive presses and pressing methods. High-frequency heat appears to hold special promise in furniture manufacture and production of laminated timbers for land structures and ships.

Treated wood can be glued: A report was prepared covering a recently completed study in the gluing of wood treated with wood preservatives, fire retardants, and urea. The results of these tests indicated that no treatments produced wood which was ungluable if the proper glue and gluing conditions were used.

Detecting urea in resin glues: Urea resin is less durable than other commonly used resins for gluing wood, particularly phenol, resorcinol, and melamine resin glues. In specifications for the latter glues, tests that would exclude urea or urea resin as an ingredient were needed. One was developed that requires but 10 minutes to make.

Preservative treatment of poles and other timbers: In addition to advising on miscellaneous pole treating and pole specification problems for the Rural Electrification Administration, eight specific projects were undertaken, the object of which is to acquire information most helpful to the REA in its efforts to meet its heavy demand for treated power line poles.

A paper entitled, "The Preservative Treatment of Various Species Proposed for Poles and Crossarms," was presented at the summer meeting of the American Institute of Electrical Engineers.

A paper entitled "Temperatures Obtained in Timbers When the Surface Temperature is Changed after Various Periods of Heating" was presented at the annual meeting of the American Wood Preservers' Association. The information given in this paper permits the following determinations: (1) heating periods for sterilizing timbers, (2) temperatures in timbers treated by the hot and cold bath method, (3) temperatures at the end of the vacuum period when timbers are conditioned by the steaming and vacuum, (4) heating periods and cooling temperatures needed to set phenolic resin glues used in gluing laminated timbers, and (5) temperatures at any point in a timber when the surface temperature is raised during the heating period.

Plywood from Southern pine: The Laboratory cooperated with a commercial producer in a study of the practicability of producing plywood from Southern yellow pine logs. The preliminary studies indicated that veneer can be cut successfully from Southern yellow pine and can be dried with current types of equipment.

Performance of TVA's machine assembled flooring: A cooperative study was begun with the Tennessee Valley Authority to test the performance of cross-banded hardwood flooring glued by a process and in equipment developed by TVA. The production of this type of flooring is directed toward the utilization of low-grade hardwood logs which cannot economically be converted into flooring of the conventional type.

Properties investigations and wood products development

This project deals with the effect of wood structure on its properties; the effect of growth conditions on the quality of the wood; the strength of natural, modified and converted wood; the development and design of wood products and structures; and the efficient harvesting and conversion of the timber crop.

Retaining woods market in tobacco curing: In the bright-leaf tobacco region wood is the principal fuel used for curing and drying tobacco, but the trend is toward replacement of wood-burning furnaces with coal stokers mainly because the latter afford automatic control of temperatures. There is still a sustained market per annum for over one million cords of wood, and because such wood may be of a quality not suitable for higher use, the retention of this market is important from the standpoint of forest products utilization. A cooperative study with the North Carolina Agriculture Experiment Station, the U. S. Tobacco Experiment Station, and a commercial stove company was begun for the purpose of improving ways of employing wood as fuel in tobacco curing. Several curing tests were conducted in which the drying was up to standard requirements with a saving of about 13.6% in the amount of wood used. Additional work will be done looking toward further improvement.

Outlets for white fir, Engelmann spruce, and lodgepole pine: Studies were begun to compare the qualities of white fir lumber with those of ponderosa pine with a view to substituting it for ponderosa pine where its qualities are adequate and costs are favorable. A series of kiln runs indicated that the successful drying of white fir is probably more a problem of kiln efficiency and operating technique than one of developing a new and special drying procedure. In resawing studies it was found that the differential between white fir and ponderosa pine could be reduced but probably never to the point of making white fir as easy to saw as ponderosa pine. A series of tests involving the factors of moisture content and nailing were made on orange crates using both species. White fir was found to have more tendency to split than ponderosa pine, except when a rail-type end was used. Nail pull occurred to a greater extent in white fir than in ponderosa pine orange crates.

A study was begun on the use of Engelmann spruce and lodgepole pine timber in Colorado and Wyoming. Even in local markets lumber from the West Coast and elsewhere is used almost to the exclusion of native timber. In an attempt to investigate this seemingly uneconomic practice and to lay a foundation for better utilization of the nation's lumber, a fact-finding survey was made in these States. It appears that Colorado and Wyoming have the timber to support a greatly increased cut, and, since two-thirds of the timber used there is now imported from outside, that a good market is at hand within these States. How this as well as outside markets can be developed is being given further study.

Hardwood log grade development: The work on hardwood log grade development held in abeyance during the war was resumed in the Central States. Represented in the mill tallies made are all of the commercially important woods common to the Lake States and the North in general and most of the common hardwoods of the South. Computation of field data is not yet sufficiently complete to permit analysis.

California hardwoods: Despite the fact that California hardwoods are fairly plentiful in some localities their use has been very limited. The current shortage of lumber of all kinds brought to a head the need for a better understanding of this potential supply of hardwoods. As an initial move some logs of chinquapin, tan oak, Pacific madrone, and California laurel, representing a fair average of the timber, were started through a series of processing tests including seasoning, veneer-making, and machining. In veneer cutting by the rotary process all species cut satisfactorily from the standpoint of tightness and smoothness of veneer. During drying the laurel developed some waviness, some madrone split badly, but the chinquapin and tan oak veneers were quite free of such defects. The machining and lumber seasoning studies are now underway.

Foreign woods information: A constantly increasing number of inquiries were received seeking information on foreign woods, which are needed to alleviate current shortages. To help supply this demand for information new issues of the Foreign Woods Leaflet Series to include the latest available information were completed for alerce, Cedrela, Marupa, Primavera, Rakuda, and Santa Maria, most of which are tropical American woods.

Other woods for shuttles - dogwood scarce: Because dogwood for shuttles continues in short supply, efforts are being continued to find other woods that are satisfactory for this use. The studies of the properties of open-grown sugar maple followed by cooperative manufacture and testing of shuttles from this source resulted in the purchase of 6,000 high-density sugar maple shuttle blanks by one firm for a commercial trial of shuttle manufacture. Shuttle blocks of Eastern hophornbeam and American beech, which also appear promising for this use, were furnished to two companies for manufacture and service tests of finished shuttles.

"Tension wood" in hardwoods: "Tension wood" is an abnormal type of structure in hardwood species that is characterized anatomically by the presence of so-called gelatinous fibers. Some wood with gelatinous fibers has been found to have excessive longitudinal shrinkage, erratic strength properties, and to be difficult to surface smoothly. Studies made on white oak and cottonwood showed good correlation between high longitudinal shrinkage and the presence of gelatinous fibers. A study is underway to correlate the relationship between varying amounts of gelatinous fibres and the strength properties of white oak beams that have been found too low in bending strength in an effort to determine the cause of these low properties.

A.S.T.M. publications: Two papers, "Methods of Determining the Specific Gravity of Wood and Wood-Base Materials", and "Fatigue of Wood and Glued Wood Construction," were presented at the annual meeting of the American Society for Testing Materials.

Ash from Lake States may help relieve shortage: Analysis of average bending and end crushing strength properties of second-growth white ash from Northern Wisconsin showed that it was about equal to that from Indiana and Ohio. This indicates that the second-growth white ash in the Northern Lake States region is a potential source of high grade material for lifting tool handles, rackets, and baseball bats. Its possibilities for these uses are being explored.

Assistance to N.H.A.: The goal of 2,700,000 houses to be built by the end of 1947, set by the National Housing Agency, will require more materials than are likely to be produced by manufacturers of well-known building materials. It will be necessary, therefore, to utilize fully all satisfactory new materials. At the request of the National Housing Agency, the Laboratory began the testing of these materials as they are submitted and is assisting in making an evaluation of their suitability for housing. The preparation of a manual on prefabricated house construction was begun for N.H.A. This work was financed with funds advanced by N.H.A.

Types of nails for boxes: An investigation was made to study the properties of different types of nails under static and impact withdrawal tests as well as the utilization of these nails in assembly of wood boxes. Analysis of results to date indicates a marked superiority of the annularly or spirally grooved nails over the plain shank nails with or without surface treatment both in the withdrawal tests and for use in boxes.

Evaluating cushioning materials: There was developed a method of determining the properties of cushioning materials to guide their use in the design of cushioned packages for the shipment of products subject to damage in transit. The method fulfills a need long expressed by such organizations as the American Society for Testing Materials and the Technical Association of the Pulp and Paper Industry and by industry in general. Selection of cushioning materials hitherto was purely a trial and error procedure. As a result, many packages were either underdesigned or wasteful of materials, with consequent higher freight costs and waste of shipping space. This procedure will enable manufacturers of cushioning materials to develop new cushions to meet the specific needs of any industry and will enable industry in general to design packages within specific cost limits. The growth of freight shipment by air will emphasize the need for accurate design of packages of minimum weight and volume, and the method will make possible a fuller use of this means of transportation.

New chests for fire-fighting tools: Four different sizes of chests for tools used in fighting forest fires were designed and tested. The chests are of sturdy construction to withstand the rough handling in hasty loading and unloading.

Jack and red pine poles: Tests were completed on jack pine and red pine in the green condition from Minnesota. These tests were made to obtain further data on these species because of their possible expanded use for pole construction.

Higher working stresses satisfactory: As a basis for determining the validity and continued use of working stresses in wood members and joints based on the principles of Directive 29 of the War Production Board, an appraisal of service rendered was made on a number of Navy buildings erected during the war. While evidence was found that numerous difficulties had been encountered, most of them could be attributed to other causes rather than to any inherent deficiency in the working stresses used in the design.

Pulp and paper

The purpose of the work under this project is to increase economical production and to attain better pulp quality and higher yields from native species, including those now little used or unused. Activities are also directed toward the improvement of present pulp and paper products and the development of new ones.

Flavanone interference in Douglas-fir pulping: From experiments made to date there is strong evidence that a new flavanone (2,3 dihydroquercetin) found in Douglas-fir heartwood to the extent of 1 to 2 percent, is largely responsible for poor results in the sulfite pulping of this species. Practical methods will be sought to overcome the deleterious effect of this material.

Use of hardwoods by Northeastern pulp mills: Twenty-two important pulp mills in 6 Northeastern States were visited for the primary purpose of determining the possibility of increasing the use of hardwoods in the pulp and paper industry in this region. One of the secondary objectives of the visit was to present the latest Laboratory information on hardwood utilization for pulp and paper. It was found that most of the mills were well aware of the seriousness of the diminishing softwood supplies and the necessity for increased use of hardwoods for better forest balance. It was likewise found that most mills were using small amounts of hardwoods. One mill has found that bleached hardwood sulfate pulps are entirely suitable for replacing a well-known bleached softwood sulfite pulp in a wide variety of papers and is constructing a sulfate pulp mill which will pulp hardwoods to a considerable extent.

Book, tissue and other papers from hardwoods: As a part of the extensive study of the groundwood pulping of quaking aspen for pulp to be used in the manufacture of machine-coated book paper, a study was made in cooperation with a pulp and paper concern on the effect of temperature, pressure, and stone surface condition on pulp quality and grinding efficiency.

The investigation into the suitability of traditionally less desirable woods for the production of neutral sulfite semichemical

pulp for book paper was extended to include the more dense species of cherry, beech, and maple. The study was made in cooperation with a New England concern where the more desirable woods are becoming scarce. An acceptable book paper was produced from a mixture of the three species.

A project to determine to what extent bleached neutral sulfite semi-chemical pulp and groundwood pulp from several southern hardwoods could be used in book coating stock, bond paper, and paperboard for food packaging was undertaken in cooperation with a large paper company. The species studied included yellow-poplar, black tupelo, sugar maple, sweetgum, Eastern cottonwood, and white ash. The semi-chemical pulps were bleached by the use of sodium hypochlorite and by sodium peroxide. All the hypochlorite-bleached semichemical pulps appeared to be satisfactory for book coating stock furnishes up to 40 percent. None of the semichemical pulps prepared in this manner were permanent enough in brightness to be suitable for use in bond papers to any considerable extent. The semichemical pulps were suited for use up to about 25 percent in the paperboard furnishes. The groundwood pulps were found to be satisfactory for the book grades in quantities up to 60 percent of the furnishes.

Tests were made on yellow birch in cooperation with an eastern manufacturer in an effort to develop a greater utilization of this species. It was cooked by the neutral sulfite semi-chemical process. Experimental papers were made using up to 50 percent of the unbleached pulp mixed with softwood groundwood and softwood sulfite pulps. A trial run was also made using 50 percent birch neutral sulfite semichemical pulp, 50 percent aspen groundwood, and 10 percent softwood sulfite pulp. The cooperator reported that entirely satisfactory results were obtained in converting these papers into embossed napkin and toilet tissue.

Bleaching mechanical pulps: A study of the sodium peroxide bleaching of mechanical pulps was made for a southern mill interested in the possibility of using such pulps in a grade of book paper for which a pulp brightness of about 65 is desired. Mechanical pulps were prepared from yellow-poplar, black tupelo, sweetgum, post oak, and Southern yellow pine. Brightness values of the bleached pulps ranged from 64 for post oak to 74 for sweetgum. The post oak pulp, presumably due to the tannin content, was the only one which required the alkaline extraction in order to attain a satisfactory brightness with the 2 percent peroxide.

Chemically converted and derived products

This project covers the chemistry of cellulose, hemicellulose, lignin, extractives and other components of wood; the improvement of wood's properties by chemical means; and the chemical conversion of wood into new products.

Alpha-cellulose for special requirements: One phase of the work being done on alpha-cellulose, which is the most stable part of the

cellulose and is used for making rayons, tire fabrics, sausage casings, and cellophane, has to do with developing practical means for separating the alpha-cellulose from the lignin and the hemicellulose with a controllable degradation of the alpha-cellulose for special requirements. Some uses require a high (96 percent) alpha-cellulose material with extremely high viscosity (150 to 200 c.p.), and a soda solubility of 7 to 10 percent. Procedures for producing a material having this combination was developed and a quantity of it was made and shipped to an industrial company for testing.

Anti-shrink efficiency of resin-forming systems: A study was made to determine the most suitable resin-forming system from the standpoint of dimensional stability. Under identical treating conditions urea resins appeared to give about two-thirds the antishrink effectiveness that can be obtained with the water-soluble phenolic resins. Thus, at a resin content of 30 percent, urea resins showed an antishrink efficiency of 44 percent and phenolic resins 67 percent.

Alcohol and feeding yeast from wood: Laboratory investigations of the production of industrial alcohol and high protein feeding yeast from wood waste were continued during the year. In one series of tests it was shown that redwood mill waste could be hydrolyzed to produce sugars sufficient for the production of 40 to 42 gallons of alcohol per ton of wood waste. Pilot-plant investigation showed that mixtures of Douglas-fir mill waste containing hogged slabs and edgings, sawdust, and shavings may be charged into the digester in quantities sufficient to produce 5.5 to 6 pounds of reducing sugar per cubic foot of digester capacity. A continuous process for introducing the acid for hydrolysis into the digester resulted in decreased time for hydrolysis and higher yields and made possible greater ease of control. In cooperation with an industrial concern, a process for the automatic neutralization of wood-sugar solutions under pressure was developed, so that it is now possible to neutralize the wood-sugar solutions continuously as they are being removed from the digester.

Fermentations using yeast transferred from a completed fermentation to fresh sugar solution were continued for over 180 transfers, producing high yields of alcohol and maintaining a satisfactory rate of fermentation. In another series of experiments the residual liquors from the alcohol distillation (still bottoms) were used to propagate yeast. The yield of yeast indicated that both pentoses and volatile acids were used to grow yeast. The solutions remaining from the yeast production were used as the make-up liquor for hydrolysis and found suitable. Such experiments show that stream pollution can be avoided by reuse of the liquor and that either yeast or furfural can be produced from the pentose sugars.

Lignin utilization: Many samples of the lignin remaining from the conversion of wood waste to alcohol have been sent to all parts of the United States for test as soil builders, resin extenders, and many other uses. Work on the acid hydrolysis of wood for use in plastics done during the past three years was summarized and presented in a publication for distribution.

General

State and Federal research conference: A comprehensive exposition of what is transpiring in the State and Federal forest products research institutions of the United States was given March 18-20, 1946, when, at the invitation of the Forest Products Laboratory, representatives of virtually every important wood-producing State and region in the country met for the first time to exchange information and ideas at a nationwide Conference on State and Federal Forest Products Research Program.

Forest Utilization Service: Five additional units of the Forest Utilization Service were established making a total of seven units now functioning. The regions being served by the new units are the Pacific Northwest, California, Northern Rocky Mountain, Central States, and Southeastern. The units established in 1945 serve the Southern and Northeastern regions.

(e) Forest Resources Investigations

Objective: To provide and maintain information on the forest resource of the United States, including its condition, area, volume, location, quality, rate of growth, and rate of drain; to determine the requirements for forest products; to study problems of the forest economy as revealed by this survey; and to make special studies related to the economic problems of timber ownership, management, production, utilization and consumption.

The Problem and its Significance: Approximately 630 million acres, or one-third of the total area of the United States, is in forest land, three-fourths of which is commercial and one-fourth noncommercial. The forest stands vary from heavy virgin forests, now mostly in the west, to light and scattered second-growth stands, mostly in the east. Some of the timber is readily accessible; some is economically inaccessible. Some timber is of the species, size and quality to make it highly desirable and useful; some is so poor it cannot be harvested economically. New growth is being produced abundantly on part of the forest land; other lands are too poor to produce a forest stand, or fires or heavy cutting have prevented regeneration. Some of the timber is still close to consuming markets, but much of it can be brought to market only at considerable cost. Detailed knowledge of these conditions is essential to an understanding of our forest opportunities and problems. The means of acquiring this knowledge is through forest resource studies--the forest survey and forest economics investigations.

The function of the forest survey is to inventory the forest stand, to show where and in what volume trees of different species, age and quality are located, to determine how fast stands of different quality and value are being depleted through cutting and other losses, and the nature, location and extent of new forest growth. Without this information there can be no intelligent appraisal of the storehouse of value in our forests nor of the problems of utilizing, replacing, and protecting our forest wealth. With this information there will be a sound basis on which public and private agencies may develop plans and programs which will assure adequate supplies of forest products for the future and proper forest land use.

In addition to providing these basic data, the forest survey discloses many special problems of local, regional and national interest. Many of these problems which are economic in nature are the subject of forest economics investigations. These include studies of the costs and financial returns to be expected from different methods of managing forest lands, including returns to timber land owners, wood-using industries, and forest communities. Other studies are designed to determine means of alleviating the social and economic adjustments that follow depletion

of timber, range or water resources. Still other economic investigations are concerned with specific factors limiting forest management, such as forest taxation, insurance, credit, price trends and market changes. Such analyses of social and economic problems together with survey data on forest resources form the basis of forest policies and programs for public agencies, for private forest enterprises, and for farmers and other forest land owners.

General Plan: The forest survey, initiated in 1930, is accomplished by a field inventory and analysis of resource data for both public and private lands. Also included are studies of current and prospective production and consumption of forest products and the influencing factors. The inventory field work is under the direction of the regional Forest Experiment Stations, and the requirements phase by a central unit in Washington. The general plan is to cover unsurveyed territory as rapidly as conditions will permit. Findings of the survey are compiled and analyzed, and reports are issued by counties or groups of counties, states, and forest regions as soon as possible after completion of the field inventory. Subsequently, the data for the territory covered are brought up-to-date from time to time through field checks and office computations. Following the completion of initial surveys for the entire country, the aim will be to keep the data current thereafter.

Forest economics investigations are conducted at the regional experimental stations and in the Washington Office. These studies of economic problems are closely integrated with the forest survey and with other research in forest management and related fields. Close working relationships are also maintained with a number of other research groups, including State experiment stations, universities, trade associations, the Bureau of the Census and other Federal agencies.

Examples of Progress and Current Program

During the past year, as in earlier war years, investigations of forest resources involved considerable effort in collection and analysis of information needed by government agencies in carrying out reconversion policies. At the same time work was continued on other research activities such as the Forest Survey and a number of other economics projects.

Forest Survey: Activities of the Forest Survey project included bringing resource information up-to-date for a nationwide reappraisal of the forest situation, developing plans for a large-scale resumption of new and maintenance Surveys, and supplying varied resource data to a large number of public agencies, industries and individuals.

Plans and procedures for a large-scale expansion of the Forest Survey were completed. New techniques based upon interpretation of aerial photographs were developed for classifying forest areas and measuring timber volumes and tree heights. Tests were made of infra-red and other types of film to determine desirable specifications for aerial resource photos. Sampling procedures were developed to reduce costs and at the same time obtain more detailed and statistically reliable data for local areas. To assure effective inter-regional coordination, standards were evolved in two national conferences for survey objectives, subject matter coverage, levels of intensity and accuracy, and field and report scheduling by regions. Detailed working plans were also prepared in each region to guide future new forest surveys and reinventories of areas previously covered.

Four regional Survey publications for the South, Virginia, and California were completed and published. Varied other detailed information was released in the form of correspondence with public agencies, forest industries, timber owners, and others.

There remain to be surveyed initially some 325 million acres, or somewhat more than half the total forested area of the country. The Survey is now embarked on a program to complete the initial Survey in 7 years and to resurvey the remainder of the country in 10 years. New work is being concentrated in the California, Central States, Northeastern and Southern regions. Resurvey work is also being conducted in all other regions. In 1947 a number of county and State statistical reports will be completed as well as comprehensive analytical reports for Virginia, Florida, western Montana, and the Lake States region.

Forest Reappraisal: As part of a general reappraisal of the forest situation in the United States, made to evaluate effects of the war and to determine policies needed to assure future wood requirements, considerable effort was devoted to a careful reanalysis of available information on forest resources. Field checks were made in previously surveyed territory. These showed in the Southern States, for example, that during the past decade sawlog growing stock has declined by 14 percent, although in terms of small as well as saw-timber trees, the growing stock has shown little change. Estimates were also compiled for unsurveyed regions on forest areas by type of cover and ownership, the quantity, quality and distribution of timber stands, forest growth and drain, potential timber requirements and related information. These estimates, like those for the South, show a continued decline in the quantity and quality of the nation's saw-timber resource.

Other investigations for which reports were prepared analyzed the problems and opportunities of various forest industries, potential timber requirements, wood waste, forest credit and insurance, forest taxation, forest cooperatives, forest employment, and the world timber situation in relation to United States forest resources.

Lumber Production and Requirements Surveys: A cooperative program, financed jointly by the Civilian Production Administration (formerly WPB), the Bureau of the Census and the Forest Service, was continued as a means of furnishing needed data for housing and other reconversion programs. Monthly surveys of lumber production and mill stocks were continued throughout the country. Log inventories were reported monthly for the Pacific Northwest. Regional reports on factors affecting production of lumber evaluated the changing importance of such factors as manpower, equipment, cost-price relationships, and stumpage supplies. Surveys of distributors' stocks, estimates of current lumber consumption by uses, and forecasts of prospective future requirements also were prepared. These studies indicate that lumber production in calendar year 1946 will approximate 33 billion board feet--materially above 1945 output of 28 billion feet but still below the 1941 peak of 36.5 billion feet, and materially below requirements for housing and other purposes.

An annual census of lumber production, based in part upon complete coverage and in part upon sampling, was made for the year 1945 in cooperation with the Bureau of the Census and the Tennessee Valley Authority. Surveys were also made of lumber distribution and stumpage and log prices in 1945.

Other Economic Studies: Special reports to the Office of the Stabilization Administrator appraised the probable effect of price changes on production of southern pine and West Coast lumber; a survey of the Pacific Coast plywood industry analyzed means of increasing plywood output. The post-war lumber situation in the United States, prospective lumber requirements, and lumber export policies were analyzed in reports to Congressional Committees. Domestic timber resources in relation to military security and foreign trade was the subject of a special report to an Inter-departmental Committee on Conservation of Natural Resources.

The probable future of forest industries in the Columbia River Basin was the subject of intensive study during the past year with the objective of advising the Bonneville Power Administration and U. S. Army Engineers on probable future power requirements for the forestry segment of the Pacific Coast economy. Reports were prepared on the plywood industry, the pulp and paper industry and forest industries of the Snake River Basin. This project will be completed during the current year.

The Otsego Forest Products Cooperative Association at Cooperstown, New York, which produces and markets lumber from local woodlots, has recently proposed a compromise settlement of its heavy indebtedness to the government. In its capacity as advisor and loan administrator, the Forest Service has carefully reviewed the Association offer and has recommended acceptance.

At the Crossett Experimental Forest in Arkansas studies of financial aspects of forest management and utilization indicated how forest incomes and employment can be maintained at high levels by frequent cutting and close utilization for products such as sawlogs, pulpwood, chemical wood, posts, etc.

Studies of the economics of forest fire control in the Appalachian and Pacific Northwest forest regions were completed. These resulted in the development of basic data and standards for measuring the losses of timber, water, wildlife and other values caused by forest fires. They also indicated criteria for allocating available protection funds and for establishing levels of fire protection that are economically justifiable in various forest areas.

(f) Forest Fire Cooperation

1. Cooperation with States in forest fire prevention and suppression:

The objective is to extend Federal aid in attaining adequate standards of fire control on the 303 million acres of State and private forest and watershed lands now under organized protection and to cooperate in extending forest protection as rapidly as practicable to the remaining 136 million acres of non-Federal lands in need of protection but not receiving it.

Over three-fourths of the Nation's forest lands is in State and private ownership and from such lands must come most of our essential wood products. Safeguarding this supply of raw material is of fundamental importance.

During recent years the cost of fire control has increased materially. Salaries and wages are higher and costs of fire-fighting tools and equipment have mounted. State protection personnel turnovers have been heavy making it necessary to spend more money for training purposes.

The Clarke-McNary Law, enacted in 1924, has greatly stimulated protection by State and local agencies. Appropriations by the States and private landowners for fire control have shown steady and substantial increases. For the fiscal year 1947, budgeted State and private funds amount to \$14,845,317, an increase of \$1,279,477 over fiscal year 1946.

During the calendar year 1945, the latest period for which statistics are available, fire protection under this program was given 303 million acres of State and private forest lands. 48,176 fires were reported on these lands of which 61% was confined to less than 10 acres. The value of organized fire control is emphasized by the fact that fires in 1945 burned over only .81% of the area protected whereas fires burned 11.64% of the unprotected area.

Total expenditures for the regular program for fiscal year 1946 were \$16,635,420 of which the Federal Government contributed \$6,743,754 or 41%; the States, \$7,497,466, or 45%, and the cooperating private owners, \$2,389,200, or 14%. An additional \$263,477 was allotted in the first half of the year for protecting critical war areas. Intensified logging operations continued throughout the year. State protection organizations were confronted with added hazards due to these heavy accumulations of logging slash added to those of the three previous years. Holding the area burned to less than 1% of the protected area is gratifying under conditions of increased hazard and shortages of labor, equipment, and experienced supervisory personnel.

During Fiscal Year 1946 the Forest Service and cooperating states completed a periodic revision of basic estimates for the total State and private area needing protection and the cost of doing the job. This revision is undoubtedly the most complete and thorough going analysis made since the inception of federal-state cooperative fire control. The revised estimates show that there are 439 million acres needing organized protection and that a complete protection job will cost \$31,684,000 annually. This is

an increase of 16 million acres and a 69 percent higher cost as compared to the 1939 estimates. The higher cost primarily reflects the general increase in salaries, wages, equipment and supplies over pre-war years plus a clearer understanding of needs for an adequate protection job, based on added years of past experience.

State Allotments for Forest Fire Cooperation
Fiscal Year 1947

State	State and Private Funds Budgeted	Federal Allotments
Alabama	\$533,546	\$227,999
Arkansas	197,875	156,589
California	2,366,179	1,080,797
Colorado	40,940	40,000
Connecticut	89,725	56,918
Delaware	10,780	7,150
Florida	541,428	382,337
Georgia	302,927	210,342
Idaho (N)	199,015	108,989
Idaho (S)	33,021	32,270
Illinois	44,173	18,975
Indiana	88,742	43,694
Iowa	10,904	7,000
Kentucky	81,387	66,864
Louisiana	323,839	202,717
Maine	221,376	158,385
Maryland	180,786	82,333
Massachusetts	303,485	96,108
Michigan	781,510	503,906
Minnesota	441,195	302,490
Mississippi	457,214	161,967
Missouri	152,000	102,195
Montana	122,700	75,912
Nevada	19,803	9,437
New Hampshire	94,177	57,614
New Jersey	310,212	137,500
New Mexico	23,607	6,000
New York	641,974	244,402
North Carolina	362,853	183,521
Ohio	110,000	69,288
Oklahoma	45,000	45,000
Oregon	1,242,401	764,998
Pennsylvania	241,495	234,815
Rhode Island	79,536	30,500
South Carolina	594,601	329,993
South Dakota	23,200	4,300
Tennessee	110,239	95,373
Texas	163,642	128,627

State Allotments for Forest Fire Cooperation
Fiscal Year 1947

State	State and Private Funds Budgeted	Federal Allotments
Utah	43,148	14,005
Vermont	36,455	27,760
Virginia	251,084	172,395
Washington	2,211,868	767,761
West Virginia	342,592	141,452
Wisconsin	498,474	299,322
Hawaii	7,232	4,500
Administration, Inspection, Prevention and Special Services to States..:	---	405,000
Grand totals	\$14,978,320	\$8,300,000

(g) Farm and Other Private Forestry

General. During the latter part of Fiscal Year 1946 progress was made in combining on a geographical basis the management work on farm woodlands authorized by the Norris-Doxey Act with that on small non-farm forests carried on under the allotment under Private Forestry Cooperation. The small woodland owner, whether he is a farmer or non-farmer, needs technical management assistance. Also, the owners on the ground look to the "public" forester for help whether he be paid from one fund or another. Also, progress has been made in combining the headquarters administrative staff for the Norris-Doxey and the Private Forestry Cooperation activities under the one Division of Cooperative Forest Management. Until the combinations mentioned above are fully achieved, however, it is believed desirable to show progress and current programs in accordance with former plans of operation.

Activities under this appropriation fall into three general categories:

1. Cooperation with states in the procurement, production, and distribution of forest-tree and shrub seeds and plants for farmers.
2. Cooperation with states for extension activities in developing farm forestry.
3. Cooperation with states and with timberland owners for a service program of technical assistance in forest management.

(a) To $3\frac{1}{2}$ million farmers owning woodlots totaling 139 million acres.

(b) To 1 million owners of industrial forestry holdings, large and small, totaling 206 million acres, in order to promote better forestry practices.

1. Planting (Forest Service):

In 1945 the demand by farmers for planting stock was far in excess of the 37,743,300 seedlings and transplants produced under the cooperative program by 42 states and 2 territories. Production in fact fell 236,729 seedlings below that of 1944 and $8\frac{1}{2}$ million below 1943. However, 32 states showed slight increases in production, the remainder, some of the largest producers, were responsible for the decreases. Even though total production was slightly less than in 1944 many of the smaller producing states appear to have been successful in maintaining the necessary labor force at least comparable to last year.

Labor for weeding and care of seedlings in the nursery beds is still far short of needs. The seed supply, so meagre in 1944, was no better in 1945.

In the face of all these difficulties the states have improved their nurseries. Soil improvement, better irrigation and watering, new and

improved machinery, repair and painting of all buildings, and a general increase of efficiency and productive capacity of the physical plant leave the states in readiness to embark on a greatly expanded production program when additional labor and funds are available. The seed crop in 1946 is promising.

Tree Distribution: The following tabulation shows the number of forest tree seedlings and transplants distributed to farmers by states during the last three calendar years.

	C.Y. <u>1943</u>	C.Y. <u>1944</u>	C.Y. <u>1945</u>
Alabama	1,250,449	921,350	945,200
Arkansas	280,000	355,550	667,200
California	- -	- -	- -
Colorado	200,500	86,600	134,700
Connecticut	42,500	126,100	84,000
Delaware	29,800	47,000	27,500
Florida	2,995,800	1,877,400	1,693,300
Georgia	3,557,730	1,489,750	2,906,800
Hawaii	18,700	35,100	37,500
Idaho	152,430	89,500	145,800
Illinois	644,800	461,900	832,000
Indiana	1,032,080	1,225,600	908,500
Iowa	246,900	178,000	121,400
Kansas	340,177	325,813	341,800
Kentucky	162,600	128,300	134,100
Louisiana	401,000	58,000	218,000
Maine	71,850	30,750	78,800
Maryland	130,850	106,665	113,600
Massachusetts	238,400	465,800	489,700
Michigan	1,704,449	1,622,750	1,986,900
Minnesota	- -	- -	- -
Mississippi	2,399,400	915,000	2,009,600
Missouri	861,200	798,253	827,600
Montana	227,253	220,395	233,600
Nebraska	974,000	1,045,200	838,300
Nevada	- -	- -	- -
New Hampshire	96,670	97,377	165,700
New Jersey	468,900	290,200	209,600
New Mexico	- -	- -	- -
New York	4,847,000	4,122,000	2,194,000
North Carolina	703,000	362,200	327,300
North Dakota	434,913	349,900	486,500
Ohio	1,397,185	988,775	1,453,900
Oklahoma	301,900	289,704	310,700
Oregon	112,400	174,300	208,800
Pennsylvania	3,873,500	2,726,000	2,934,000
Puerto Rico	1,143,000	2,393,300	1,745,200
Rhode Island	- -	- -	- -
South Carolina	3,676,050	4,320,200	1,261,300
South Dakota	579,250	241,300	305,800
Tennessee	836,241	419,740	739,200
Texas	948,200	891,500	1,867,000
Utah	63,200	58,600	77,600
Vermont	169,413	109,810	189,200
Virginia	396,810	213,400	305,800
Washington	81,100	70,847	81,200
West Virginia	468,400	733,000	812,100
Wisconsin	7,745,100	6,484,300	6,226,900
Wyoming	45,400	32,800	65,600
Totals	46,350,500	37,980,029	37,743,300

2. Extension Forestry: (Extension Service):

At present there are 42 States and 2 Territories cooperating with the U.S. Department of Agriculture in farm forestry extension, employing 58 State extension foresters who are charged with the responsibility of conducting a Statewide farm forestry extension program and for carrying it out among farm people through the county agricultural agents. The State extension foresters prepare the necessary subject matter by way of bulletins and circulars, press releases, radio programs, visual aids, such as lantern slides, posters, exhibits, etc. Two Federal extension foresters assist the State extension foresters in developing and preparing subject matter and provide a general advisory service, besides serving in a forestry liaison capacity between the States and the Department. One of these extension foresters is assigned to the South and East, and the other to the Lake Central and Western States.

Probably one of the most helpful contributions the extension foresters are now making is in the field of farm building construction. The State Specialists are a valuable link in assisting farmers to convert farm timber to much needed building materials. In one community the lumber cut by one rather large sawmill was supplied by over 300 farmers who harvested their timber from their farm woodlands. Labor saving equipment, such as efficient hand and power tools is being demonstrated by extension workers.

The increasing interest in 4-H forestry club work is creating additional demands on extension foresters. Closely allied to the forestry phase of this work and of coming importance are activities in fish and wildlife, and water and soil conservation. Forestry specialists are contributing to these allied projects.

The following summary shows the number of farmers who were assisted by extension workers:

<u>Counties reporting</u>	<u>Number of Farmers</u>
1,682 In reforesting new areas by planting with small trees .	46,651
1,266 In making improved thinnings, weedings, or pruning	
of forest trees	27,487
1,261 With selection cutting	27,713
105 With production of naval stores	2,983
157 With production of maple-sirup products	3,252
1,200 In timber estimating and appraisal	16,088
1,217 In cooperating in prevention of forest fires	591,297

3a Farm Woodland Management Projects (Forest Service):

Under the direct on-the-ground advice and assistance rendered by the farm foresters on the farm woodland management projects, 12,083 farmers in the fiscal year of 1946 grew, managed and marketed their farm timber crop in accordance with sound, workable forest management practices. The farmer liked this direct assistance approach. He walked through his woods with the farm forester and studied and considered the recommendations for its careful management which included fire protection, protection from grazing, proper improvement and harvest cuttings and wise marketing of the products, all of which are necessary if good husbandry is not to be defeated. 5101 farmers performed improvement and harvest cuttings on 167,130 acres. In each case, the farmer, his son or hired man participated in the marking and measuring of the trees for sale. Assisted and advised by the farm forester, the farmers cut a total of 452 million board feet which contributed 6,092,499 dollars to the gross farm income. This compared with 411 million board feet cut in fiscal year 1945 and 4-3/4 million dollars of farm income. With the assistance of the farm forester 5403 barrels of gum naval stores and 48,929 gallons of maple syrup were harvested.

More and more timber buyers and sawmill men are endorsing the farm woodland management projects. Many operators now refer farmers with woodlands to the farm forester for advice and assistance. In the perpetuation of this renewable resource the timber operator sees a future for his sawmills and other related forest industries. With the farm woodlands supplying approximately 1/3 of the total national cut of all forest products these operators are benefited when farm woodlands are cut so as to be left in condition to produce continuous crops in the future. One sure way to achieve this objective is to see that the farmer receives a fair price for a measured amount of farm timber cut in accordance with continuous yield practices, 156 farm foresters working with farmers in 300 counties are doing just this. Their success and progress is reflected in statements from the farmers themselves who were benefited by the farm woodland management program.

Farm Forester A. H. Maxwell, Moranton, N. C.: L. L. Chester, Burke County, N. C., says, "There is a good profit in your timber if you work it yourself, I tried to sell all my timber on the stump, but wasn't satisfied with the offers. I got the farm forester to go over the timber. He bored some trees to see how they were 'fattening up' and determined which trees were ready to be cut. The white pines around my house had ceased growing and some had a little red heart. When my boy, Carl, came back from the Army, we went to work and cut 20,000 board feet from the marked white pine trees. We also cut and sold 7,000 feet of hickory, locust and hardwoods for pushbroom splinters. We got a good price because we put some labor in it. I paid off three years ahead of time on my farm with the timber money. I have decided to grow the thrifty young trees for a few years longer."

Farm Forester Eldridge J. Sylvester, Winasor, N. C.: H. S. Baker, Rt. 3, Winasor, N. C., offered to sell his timber to sawmill man R. L. Taylor. Taylor asked him how much he had, but Baker didn't know. Taylor told him, "I am so busy here at the mill I do not have time to look it over. You get Mr. Sylvester to help you determine how much you have for sale. I have purchased several tracts on his estimate."

Farm Forester C. F. Woodcock, Farmerville, La.: In 1938 Mr. Doyle Smith acquired 64 acres of timberland for \$10 an acre. Several months ago he came to the farm forester and said that he had been offered \$750 for all of his trees and that he wanted some advice. Together they culled-out and sold 63 Mbd. ft. of sawlogs at \$12.50 per M and 168 cords of paper wood at \$1.60 per cord for a total sum of \$1,056.30. After the last stick of paper wood was cut, the contractor offered him \$1,100 for the remaining stand. In Smith's own words, "My 64 acres of timber could not be purchased for any price as those fast-growing poles that were left after cutting will some day bring me five times the amount anyone could afford to pay me now."

Farm Forester John B. Graves, Union Springs, Ala.: During the past month, 10 operators of forest products sought advice and assistance from the farm forester. Many operators are kind enough to spread information about the program and the forester which is very helpful. Another lumberman farmer was added to the list who have received advice and assistance in marking their farm timber for selective cutting. Eleven of the last 30 requests received were placed because operators suggested to the farmer that the assistance of the farm forester be secured.

Farm Forester E. J. Kroher, Jr., Live Oak, Fla.: With my assistance, Mr. Henry Daniels, Farmer, Jackson County, Florida, started small gum farming operation in 1943. First year 893 faces produced 21 bbls. for a net profit of \$302.00, or 34¢ per face, exclusive of labor, which was done by himself, along with his other farm work. The second year, he only produced 17 bbls, but due to rising prices made a net profit of \$356.00, or 40¢ per face. Last year, Henry again produced 21 bbls. for a profit of \$516.00, or 58¢ per face. This \$516.00 worth of raw gum was produced with 342 man-hours, which in a 32-week season figures just a little over 10 hours per week and \$1.51 per hour for his labor.

Farm Forester Nat Walker, Stillwater, Okla.: Mr. F. S. Murd, Farmer, of Broken Arrow planted three and one-half acres of catalpa on his place on the Verdigris River bottoms six years ago. Last year under the advice of the Farm Forester he harvested 1,500 posts and has completed the harvesting this spring by cutting 3,000 additional posts. He had these posts cut and hauled into Broken Arrow for 7¢ apiece and he sold them for 25¢ per piece, netting 18¢ per post over the cost of operation.

Farm Forester William S. Beckley III, Deadwood, South Dakota: That thinning can be done profitably is shown very clearly in the case of Mrs. E. I. Burchett. On one piece of her property 14 acres have been thinned under the close supervision of the Farm Forester. The original stand was an average of what is to be found in the 26-50 year age class in the Black Hills ponderosa pine type. There were 9,843 posts removed

from the 14 acres. These were from 6' to 10' in lengths. The operator lopped and scattered all slash in blocks of about 2 acres broken by trails 3' to 10' in width. The stumps were cut at a maximum height of 10" and mostly 6" and lower. The tops were utilized to a diameter of $2\frac{1}{2}$ " which tends to account for the large number of posts removed per acre. The returns from this operation, in stumpage, was \$90.28 or \$6.45 per acre.

Farm Forester Martin L. Syverson, Vancouver, Washington: Farmer Borjesson had planned to have a small amount of blowdown fir custom sawed into lumber for farm use. While going over his woodlot, I suggested that he cut several thousand feet of matured alder along with the fir. Borjesson and his boys logged out 15 M feet of alder logs. I arranged for a lumber buyer who paid him \$42.50 for one inch and \$45.00 for 2 inch alder boards at the mill site on the farm. The custom sawing cost him \$15.00 per M plus about \$3.50 labor costs. This left the remainder for him and the boys to operate on; thus selling farm labor along with the stumpage.

3b. Cooperation with Industrial Timberland Owners (Forest Service):

During the first four months of Fiscal Year 1946 the major activity of the personnel of the Private Forestry Division was confined to the Timber Production War Project. This war forestry program was begun by the Forest Service in September 1943 at the request of, and with allotments from the War Production Board. As had been predicted by the Forest Service, war demand for lumber and other forest products far exceeded the current production and especially serious was the reduced output of the 35,000 small sawmills in the East.

After the close of the Project on October 31, 1945, requests continued to pour in from landowners for marking assistance and for advice on harvesting and selling forest products. In addition, large numbers of requests have been received for advice on equipment layout and improvement, grade-sawing, and seasoning of lumber.

The demand for lumber and the requests for technical assistance have been greatly stimulated by the needs of the National Housing Program. Consequently, without the IPWP personnel each of the few remaining foresters working on private lands has a large backlog of urgent requests for assistance. In the interest of making the most efficient use possible of the reduced personnel the foresters on private cooperation work were detailed to supplement and assist the Norris-Doxey Farm Woodland Management Projects. Most of the work done, therefore, has been in cooperation with the States and on the small forest ownerships.

On the 345 million acres of commercial, privately-owned forest land, 261 million acres, or 76%, is in small holdings. These small tracts are the woodlands of 4,200,000 owners of whom about one million are non-farm owners. The Norris-Doxey program is aimed to reach the 3 million or more farmers owning woodlands. The non-farm owners and the operators of 40 thousand small sawmills and other wood-using plants want and need the kind of help offered by the IPWP during the war. The medium and large owners

of forest land and wood-using industries continue to receive attention from the specialists on the Regional Office staffs as the curtailed program permits. Most of them can afford to pay for professional forestry and marketing advice which consulting foresters or their trade associations should provide, but the small owners and operators usually cannot afford to pay for such services individually, nor do many of them belong to trade associations which could supply such assistance. Because of the importance of such small holdings and the aggregate production from these small enterprises, experienced foresters under the Private Forestry Cooperation Project are needed to increase production and promote forest husbandry.

(h) Acquisition of Lands for National Forests

This appropriation is provided to acquire lands for the protection of the watersheds of navigable streams and for the production of timber in the continental United States and in Puerto Rico, under the provisions of the Weeks law of March 1, 1911 (36 Stat. 961), as amended by the Acts of June 7, 1924 (43 Stat. 654) and March 3, 1925 (43 Stat. 1215).

There now exists 78 areas situated in 32 of the States and in Puerto Rico within which acquisition of lands pursuant to the above acts has been approved by the National Forest Reservation Commission. Of these areas, three are subject to acts of Congress which authorize appropriations of the receipts of specific national forests for the acquisition of lands within said forests and future purchases within these areas will be conducted under such special authorizations. In five additional ones the approved areas comprised particular lands, the acquisition of which has been completed. Of the remaining 70 areas there are eight within which land acquisition has been deferred because of lack of funds or pending development of conditions sufficiently favorable to warrant initiation of an acquisition program. There are at present, therefore, 62 such purchase units in an active status, i.e., within which lands have heretofore been acquired and within which further consolidation is deemed necessary.

This work was initiated in 1911 in the Appalachian areas of New England and Western North Carolina. During the ensuing 35 years it has been extended to other areas in the Appalachian region from Pennsylvania to Alabama, to the piedmont and southern pine areas of the South Atlantic and Gulf States, to the central hardwood belt of the Ohio and Mississippi Valleys, to the Ozark Plateau, and to the Lake States Region. While a small number of units have been established and minor acreages acquired in the far western states, the greater part of the units established under the project are located east of the Great Plains.

During all but five of the 36 fiscal years 1911 to 1946, inclusive, Congressional appropriations or allotments by Executive Orders from Emergency funds have been made annually for the acquisition of lands under this project. The purchase program was very greatly curtailed during the recent war years and the appropriations for 1943, 1944 and 1945 were primarily used to consummate transactions previously approved and entered into. No appropriation was made for fiscal year 1946. For fiscal year 1947 Congress made available the sum of \$3,000,000.

A few of the units in the West are within national forests that were established from the public domain but which contain key areas in private ownership that need to be acquired and administered by the Government in conjunction with surrounding national forest lands. Otherwise, the purchase units established with the consent and approval of the National Forest Reservation Commission comprise lands which were all or almost all in private ownership prior to the establishment of the units. Such

lands in large measure are principally valuable for timber growing and watershed purposes; many of them have been heavily logged, unwisely cultivated or otherwise impaired. The major part of these lands should be in public ownership so that they can be made to contribute optimum benefits to stream flow regulation and timber production.

The following tabulation shows the status of the existing purchase units as of June 30, 1946 and the progress expected to be made in fiscal year 1947:

	<u>Gross Area</u> (Acres)	<u>Not to be Acquired</u> (Acres)	<u>Acquirable</u> (Acres)
Purchase Units as of 6/30/46 (78)	54,233,064	7,204,154	46,028,910
Acquired by purchase, exchange, donation, transfer from other Federal agencies, reservation from the Public Domain as of 6/30/46			<u>21,796,237</u>
Balance to be acquired as of 6/30/46 to complete purchase units			24,232,673
Estimated acquisition during F.Y. 1947			<u>500,000</u>
Balance estimated to be acquired after 6/30/47			23,732,673

(i) Acquisition of Lands from National Forest Receipts

This appropriation is to meet the following special condition which is not actionable under the provisions of the Weeks Law Act of March 1, 1911 (36 Stat. 961) as amended: Because of intermittent flow, rocky channels, or other adverse characteristics, the streams draining into the Great Basin in Utah and Nevada, and into the Pacific from southern California, are not navigable; whereas the Weeks law requires that lands purchased under its terms shall be on watersheds of navigable streams. Within the drainages cited are certain national forests and within such forests are widely dispersed tracts in private ownership. Such tracts frequently are subject to forms of misuse such as clear-cutting of timber, overgrazing, removal of brush cover, etc., which minimize or neutralize the objectives of management of the intermingled national forest lands. In the units located in southern California occupancy and use of such private lands may create fire hazards which threaten not only the privately owned tracts but also large surrounding areas of publicly owned and protected watersheds. Because of their private ownership the lands proposed for acquisition are not now eligible for the rehabilitation measures which can be applied to publicly owned lands to correct misuse and restore or preserve the requisite vegetative covers.

Because of the vital importance of the watersheds involved, local public sentiment is strongly favorable to Federal acquisition and management of such lands. To that end local agencies and interests have proposed and supported bills through which certain proportions of the receipts from the several national forests concerned have been authorized for appropriation for the purchase of private lands within such national forests. This action was with full knowledge that 25% of the funds so appropriated otherwise would be payable to the counties under the Act of May 23, 1908 (35 Stat. 260; 16 U. S. C. 500) so that, in effect, the counties would be contributing one-fourth of the costs of purchase. The appropriations herein discussed are based on the seven such bills enacted by the Congress which are cited in the appropriation bill.

The work under this appropriation will consist of the examination and appraisal of such lands, the conduct of the ensuing procedures through which title thereto will be vested in the United States, and the payment to the vendors of the agreed and approved considerations for the lands conveyed.

The following tabulation shows the status of the purchase program under this appropriation.

Purchases of Land under the Forest Receipts Acts

Purchase Unit	State	Acquired to 6/30/46 (Acres)	Estimated Balance to be acquired (Acres)	Estimated Cost	Appropriation available in F. Y. 1947	Estimated acreage to be bought in 1947
Uinta-Wasatch	Utah	82,243	68,000	\$ 241,343	\$ 40,000	10,000
Cache	Utah	7,404	118,000	20,000	10,000	2,500
Cleveland-San Bernardino (Riverside County)	Calif.	-	82,000	-	22,000	3,000
Nevada-Toiyabe	Nevada	6,843	55,000	27,586	10,000	2,500
Angeles	Calif.	-	28,000	-	20,000	800
Cleveland-(San Diego County)	Calif.	-	91,000	-	5,000	500
Sequoia	Calif.	3,984	41,000	35,000	35,000	4,500
TOTALS		100,474	483,000	\$323,929	\$142,000	23,800

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STATEMENT OF OBLIGATIONS UNDER SUPPLEMENTAL FUNDS

Item	Obligations, 1946	Estimated obligations, 1947	Estimated obligations, 1948
Administrative Expenses, Section ;			
392, Agricultural Adjustment			
Act of 1938, Department of			
Agriculture (Forest Service):			
Cooperation with Production and			
Marketing Administration in			
administration of the naval			
stores conservation program ...	\$16,589:	\$19,513:	\$19,513
Local Administration, Section			
388, Agricultural Adjustment			
Act of 1938, Department of			
Agriculture (Forest Service):			
Cooperation with Production and			
Marketing Administration in			
administration of the naval			
stores conservation program ...	105,089:	97,586:	97,586
White Pine Blister Rust Control,			
(Forest Service): For white			
pine blister rust control on			
national forests	1,359,791:	2,599,471:	1,974,650
Flood Control, General, Depart-			
ment of Agriculture (Forest			
Service): Preliminary exam-			
inations and surveys, and works			
of improvements on headwaters			
of streams, including upstream			
engineering, soil stabiliza-			
tion and reforestation on			
selected watersheds authorized ;			
by various Flood Control Acts...	348,937:	901,750:	653,119
Working Funds, Agriculture, Forest			
Service Advances from: War			
Department:			
Army Air Forces, for strength			
studies of wood, plywood, and			
glues for use in aircraft			
(joint project with Navy) ...	69,881:	67,310:	- -
Army Air Forces, for general			
research and development			
program, plastics, glue			
evaluation, seasoning, etc.,			
for aircraft	5,222:	19,553:	- -

(Continued on next page)

Item	Obligations, 1946	Estimated obligations, 1947	Estimated obligations, 1948
Working Funds, Agriculture, Forest:			
Service, (Cont'd.) Advances			
from :			
War Department (Cont'd.)			
Engineer Corps, for mapping			
strategic areas	\$7,247:	\$3,115:	- -
Army Air Forces, Preparation			
of packaging inspection			
manual	164:	- -:	- -
Ordnance Department, for			
solving packaging and con-			
tainer problems, and for			
instruction courses in con-			
tainer construction and			
packaging	201,601:	6,943:	- -
Air Defense Command, for			
winterizing and operating			
observation stations	- -:	3:	- -
Army Air Forces, for solving			
packaging and container			
problems	199,546:	61,054:	- -
Army Air Forces, Air Service			
Command, for instruction			
courses on container con-			
struction and packaging	28,927:	- -:	- -
Engineer Corps, for protec-			
tion of maneuver area West			
Virginia	3,331:	- -:	- -
Engineer Corps, for protec-			
tion of Hunter-Liggett			
military reservation,			
California	25,488:	1,002:	- -
Ordnance Department, for de-			
velopment of nonmetallic			
land mines	2,637:	- -:	- -
Signal Corps, for development			
of containers and packaging			
of communications equipment			
and parts	5,034:	9,707:	- -
Ordnance Department, for			
equipment storage problems .	- -:	24,000:	- -
Engineer Corps, for war-dog			
reception center	- -:	1,000:	- -
Total, War Department	549,078:	193,687:	- -

(Continued on next page)

Item	Obligations, 1946	Estimated obligations, 1947	Estimated obligations, 1948
Working Funds, Agriculture, Forest:			
Service (Cont'd.) Advances from:			
Navy Department:			
Bureau of Aeronautics for strength studies of wood, plywood, and glues in aircraft (joint project with Army)	\$73,414:	\$63,704:	- -
Bureau of Supplies and Accounts, for instruction courses on export packaging for Navy personnel	5,628:	- -:	- -
Bureau of Ships, for studies relating to the use of wood in boats, including laminated construction, fire-proofing ; preservation, etc.	57,673:	6:	- -
Bureau of Ordnance and Stores, for development of plastic cartridge cases	8,938:	- -:	- -
Hydrographic Office, for mapping strategic areas	195,673:	94,678:	- -
Bureau of Aeronautics for research on fabrication of materials for high-speed naval aircraft	11,565:	8,435:	- -
Bureau of Aeronautics, for development of adhesives for bonding metal to wood	- -:	12,000:	- -
Bureau of Ships, for investigations of the behavior of composite laminated structures, David Taylor Model Basin	- -:	30,000:	- -
Bureau of Aeronautics, for the development of protection system for wood components of aircraft	24,982:	- -:	- -
Bureau of Ships, for continuation of program of investigations, tests, and studies in connection with various wood problems	- -:	6,250:	- -
Bureau of Supplies and Accounts, for dismantling, transporting, and reassembling fire lookout towers at Farragut, Idaho	- -:	1,725:	- -
Total, Navy Department ...	377,873:	216,798:	- -

(Continued on next page)

Item	Obligations, 1946	Estimated obligations, 1947	Estimated obligations, 1948
Working Funds, Agriculture, Forest:			
Service (Cont'd.) Advances			
from:			
National Advisory Committee			
on Aeronautics:			
Study of stress concentration:			
in non-isotropic materials.	\$11,512:	\$2,851:	- -
For investigations of fi-			
brous materials for sandwich			
construction	9,716:	15,012:	- -
Total, National Advisory			
Committee on Aeronautics	21,228:	17,863:	- -
Interior Department:			
For protection of Oregon and			
California R.R. and reconvey-			
ed Coos Bay Wagon Road grant			
loans located within the			
boundaries of national forests:	35,697:	8,765:	- -
Relocation of Forest Service			
facilities on lands subject			
to flooding from Shasta Dam,			
California	27,369:	960:	- -
Reconstruction of Forest			
Service telephone lines to			
eliminate power interference			
caused by Booneville project	4,506:	772:	----
To cover cost of moving Forest			
Ranger Station, Boise, Idaho	1,108:	9,640:	- -
For survey and study of future			
development in the Columbia			
River Basin	3,828:	21,172:	- -
Timber survey, Hungry Horse			
Dam	- -:	6,000:	- -
To cover cost of protection			
and maintenance of smoke-			
jumper for use on forest			
fires on park service land	- -:	6,300:	- -
Relocation of approximately			
15 miles of telephone lines,			
Booneville Project	- -:	4,598:	- -
Total, Interior Department	73,508:	58,207:	- -

(Continued on next page)

Item	Obligations, 1946	Estimated obligations, 1947	Estimated obligations, 1948
<u>Working Funds, Agriculture, Forest:</u>			
<u>Service (Cont'd.) Advances</u>			
from:			
<u>Federal Works Agency:</u>			
Public Roads Administration			
for investigation of appli-			
cations, and construction,			
maintenance, and improvement			
of access roads to sources of;			
raw materials	\$269,126:	\$86,479:	- -
<u>Federal Power Commission:</u>			
For investigation and super-			
vision of Federal Power			
Commission projects	923:	2,463:	- -
<u>Department of Commerce:</u>			
Bureau of Census, for collec-			
tion of forest products data	80,381:	76,261:	- -
<u>Office for Emergency Management:</u>			
For use of Forest Service			
facilities in Alaska to pro-			
vide fiscal, personnel, and			
procurement services	306:	- -:	- -
<u>Office of Price Administration:</u>			
For use of Forest Service			
facilities in Alaska to pro-			
vide fiscal, personnel, and			
procurement services	9,130:	9,480:	- -
<u>War Manpower Commission:</u>			
For use of Forest Service			
facilities in Alaska to pro-			
vide fiscal, personnel, and			
procurement services	3,417:	- -:	- -
<u>United States Employment</u>			
<u>Service:</u>			
For use of Forest Service			
facilities in Alaska to pro-			
vide fiscal, personnel, and			
procurement services	1,610:	1,200:	- -
<u>Office of Scientific Research</u>			
<u>and Development:</u>			
For photostating secret			
documents	12,581:	9,243:	- -

(Continued on next page)

Item	Obligations, 1946	Estimated obligations, 1947	Estimated obligations, 1948
<u>Working Funds, Agriculture, Forest</u>			
<u>Service, (Cont'd). Advances</u>			
<u>from:</u>			
<u>Civilian Production Administra-</u>			
<u>tion:</u>			
Lumber Division, for stimu-			
lating the production of			
forest products needed in			
the war effort	\$499,804:	\$5,258:	- -
Lumber and Lumber Products			
Division, for gathering and			
furnishing information on			
the production, requirements			
and supplies of forest prod-			
ucts	334,601:	347,359:	- -
Office of Production Research			
and development, for a pilot			
plant study of laminating			
ship timbers, and structural			
timbers, design of furnace-			
type dry kiln, water			
repellents, etc.	10,251:	- -:	- -
Total, Civilian Production			
Administration	844,656:	352,617:	- -
<u>National Housing Administration:</u>			
Testing and research on			
building materials and			
systems, intended to facili-			
tate the Veterans' Emergency			
Housing program	2,007:	172,993:	- -
<u>Selective Service System:</u>			
For operating Civilian Public			
Service Camps	361,090:	130,233:	- -
<u>Farmers' Home Administration:</u>			
For payments in lieu of taxes			
and for insurance of Govern-			
ment property on Sublimity,			
Ky., and Drummond, Wisa,			
rural rehabilitation projects:	163:	200:	- -
<u>Commodity Credit Corporation:</u>			
To cover costs incident to			
conducting tests on egg			
cases	55:	- -:	- -
Total, Working Funds	2,612,132:	1,327,724:	- -

(Continued on next page)

Item	Obligations, 1946	Estimated obligations, 1947	Estimated obligations, 1948
<u>Cooperative Work, Forest Service:</u>			
Trust fund contributed by co-operators for the accomplishment of certain projects shown below, which are of mutual benefit to the Forest Service and to such cooperators:			
1. Construction of improvements:	\$311,098	\$330,000	\$330,000
2. Maintenance of improvements:	331,216	360,000	360,000
3. Prevention and suppression of forest fires	878,756	960,000	960,000
4. Disposal of brush and other debris in timber-sale operations and sale area betterment	835,996	1,541,000	1,541,000
5. Forest investigations	178,696	190,000	190,000
6. Administration	55,426	60,000	60,000
7. Reforestation	3,927	4,000	4,000
8. Refunds to cooperators ...	55,365	55,000	55,000
Total, Cooperative Work	2,650,480	3,500,000	3,500,000
<u>Construction of Forest Access</u>			
<u>Roads to Standing Timber:</u>			
Trust fund advanced by the National Housing Agency through the Reconstruction Finance Corporation, for the construction of roads to National Forest timber, under authority contained in Section 11 of the Veterans' Emergency Act of 1946 (Act of May 22, 1946, P.L. 388)	221,949	13,078,051	
<u>Penalty Mail Costs, Department of Agriculture (Allotment to Forest Service):</u>			
For cost of penalty mail pursuant to Section 2, Public Law 364, 78th Congress	30,425	45,000	53,000
<u>Cooperation with American Republics:</u>			
<u>(Transfer from State Department):</u>			
For training in forestry of trainees from other American Republics a/	- -	20,117	21,860
TOTAL, OBLIGATIONS UNDER SUPPLEMENTAL FUNDS	7,345,392	21,589,212	6,319,728

a/Schedule for this item appears under the State Department chapter of the Budget.

FOREST ROADS AND TRAILS

Forest Highways

General: The Forest Highway System and the Forest Development System constitute the Forest Road and Trail System -- the planned transportation system for the National Forests.

Both Forest Highways and Forest Development Roads must serve the forest land and resources. The only difference is in the relative value of the service (1) to the forests and (2) to "the States, counties or communities, within, adjoining or adjacent to the National Forests." A road is designated a Forest Highway and becomes a part of the Forest Highway System when the value of the second purpose is the higher.

Forest Highways are a part of the public transportation system of the Nation as against Development Roads which, while open to public travel, are essentially "property roads."

Objective: A Forest Highway System adequately serving National Forest activities and resources and satisfying the requirements of public travel within or across the Forests.

The Problem and its Significance: The problem is to construct or improve the Forest Highways so that they will give service when and in the amount required and so that all forest sections of highways entering or crossing the forests will be as satisfactory for travel as the highways outside the forests of which they are a part. The System, located in Puerto Rico, Alaska, and the 40 States which contain national forests, is composed of 23,415 miles of highways.

Travel into or across the forests is far from restricted to that in connection with administration of the forests and their resources. A relatively large proportion consists of local travel, that is people living within or near the forest boundaries. Much of the more local travel is intercity and intercommunity. Upon it depends the social and economic welfare of many people living in or near the forests. Approximately 19 percent of the total area within the forest boundaries is privately owned. These alienated lands and other lands outside of but adjacent to the forest boundaries are used for growing timber, stock grazing, mining, resort sites, small business establishments and in many other ways. Whether the people so engaged live in or outside the boundaries, travel on forest roads is necessary to conduct their business, to get their mail, to transport children to school, to make business or social trips, to obtain supplies and to carry the products of the land to the railroad or town and city markets. These road users expect that the roads in the forests will fully meet their needs.

The Congress has recognized that the Federal Government has a definite obligation to the public to provide for adequate highway transportation necessary to the national forests and of primary importance to the States, counties, or communities. The highway transportation system in and near national forests should for obvious reasons be advanced in step with connecting highways.

General Plan and Current Status of Program

The general plan for improvement of Forest Highways involves about 13,300 miles of grading and 15,300 miles of surfacing at an estimated cost of approximately \$560,000,000. It would take over 22 years to complete the work with an annual construction budget of \$25,000,000. This estimate does not take into account the deterioration and obsolescence of the highways over a 22 year period, which may be expected to add considerable reconstruction and resurfacing to maintain reasonable highway transportation service.

The improvement of Forest Highways has in general lagged behind that of the connecting roads outside the Forests. During the war practically no progress was made.

Progress in the Fiscal Year 1946

Three million five hundred thousand dollars was appropriated for Forest Highways in 1946, -- \$1,500,000 for maintenance and reconstruction, and \$2,000,000 for initiating an improvement program. The latter amount (\$2,000,000) did not become available until November, 1945. About 540 miles of location surveys for Forest Highway improvement were accomplished in the fiscal year 1946. On June 30, 1946 construction work was underway on 239 miles and work had been completed on 5.5 miles that were started in the fiscal year. Thus a start was made in getting underway, but otherwise the progress was minor in relation to the total job to be done.

In the fiscal year 1947 the Forest Highway construction program has been largely directed towards projects which are of importance to the production of timber. Approximately 400 miles of forest highways will be constructed or improved during the year.

Forest Development Roads and Trails

General: The Forest Development Road and Trail System supplements the Forest Highway System. Together they form the National Forest Road and Trail System, the transportation system necessary for adequate service to the National Forests. Usually a Development road is a feeder to a Forest Highway but occasionally it connects directly with the "non-Forest" highway system outside the Forest boundaries. Usually the terminus of a Development foot or horse trail is a Development road, occasionally a Forest Highway and infrequently a point of the non-Forest system.

Trails are an essential part of the fire detection and suppression system. Some are also extensively used for forest administration, and recreation and occasionally for other purposes.

Objective: A transportation system of Development Roads and trails which at the lowest annual expenditure for maintenance and construction investment will fully meet all forest activity and resource needs.

The Problem and its significance: The gross national forest area is equivalent to approximately 10 percent of the entire area of the continental United States. The area is generally rough, rugged, mountainous, and remote. The forests contain about 518 billion board feet of commercial saw timber besides many other timber, land and water resources. The need for increasing timber production for housing and other requirements is one of the most urgent current problems. The key to solving this problem is roads to open up inaccessible stands of timber.

Some 80,000,000 acres of the National Forests are utilized for grazing resulting in important production of meat, hides, and wool. Developed and undeveloped water power amounts to 11 million horsepower. Nearly four million people live in or near national forests.

General Plan: The general plan is based on a systematic study to determine the network of roads and trails which at least annual cost will adequately and economically serve the traffic necessary for protection, development, management and utilization of national forest lands and resources as well as carry the traffic serving agricultural lands, industrial establishments and communities located within and near the national forests. On June 30, 1946, the planned Forest Development Road System consisted of the following miles of existing and proposed truck-trails and trails:

	: Development Roads		: Trails	
	: Miles	: Percent	: Miles	: Percent
Satisfactory standard	53,438	39	88,006	53
Unsatisfactory standard	46,976	34	56,054	34
Non-existing	37,753	27	21,078	13
Total	138,167	100	165,138	100

Recent Progress

The Department of Agriculture appropriation for the fiscal year 1946 contained \$4,448,778 for forest development roads and trails. This was less than 70 percent of the amount required for maintenance and it was necessary to draw on the permanent appropriation "Roads and Trails for States" for the balance of the maintenance obligation. Maintenance

work was accomplished on 75,330 miles of forest development roads and 123,785 miles of trails.

Logging and other heavy traffic necessitated the replacement of many old timber bridges. The addition of gravel surfacing, of which little had been done during the war, accounted for a considerable share of the road maintenance. Shortage of new equipment made it necessary to keep old machines in operation, beyond their economical life.

During the fiscal year 1946 the shortage of lumber for housing and reconversion needs became more critical and its seriousness more generally recognized. To prepare for and get started on road improvement work to expedite production of timber, Congress appropriated and additional \$2,000,000 in November, 1945. It provided for such designs and surveys as could be accomplished in the winter and for starting construction work in the spring of 1946.

The National Housing Agency transferred \$2,000,000 to the Forest Service for timber access road construction. This became available in June, 1946 and materially assisted in getting a prompt start on the 1947 fiscal year program.

On June 30, 1946 surveys were under way or completed on 900 miles. Construction work was underway, or under contract, on timber access road projects totaling 400 miles estimated to cost \$1,700,000.

In recognition of the urgency of providing roads to open up inaccessible timber stands the National Housing Agency has transferred additional funds to the Forest Service, bringing the total of such transfers to \$13,300,000. The available funds, including the Forest Road Development appropriation not needed for essential maintenance, are being used for the construction and improvement of approximately 2300 miles of road. Work is scheduled for 355 different projects in 33 states. The estimated cost of the construction program for the fiscal year 1947 is \$19,300,000. Increased timber production as a result of this work is expected to be 1.4 billion board feet by December 31, 1947.

EMERGENCY RUBBER PROJECT

Summary of Liquidation Activities

Bureau or Item	1946	1947 (estimated)
Forest Service	\$2,631,072:	\$350,000
Bureau of Plant Industry, Soils, and Agricultural Engineering	113,956:	10,000
Bureau of Agricultural and Industrial Chemistry	60,173:	- -
Bureau of Entomology and Plant Quarantine .	3,462:	- -
Transferred to "Salaries and expenses, Office of Solicitor"	12,500:	- -
Total obligations	2,821,163:	360,000
Prior year balance available in 1946	-1,525,128:	- -
1946 balance available in 1947	+1,307,837:	-1,307,837
Reappropriation of prior year balance in 1946	-4,253,662:	- -
Carried to surplus fund, Public Law 301, 79th Congress	+1,649,790:	- -
Unobligated balance, estimated savings	- -:	+947,837
Total appropriation or estimate	- -:	- -

The Emergency Rubber Project was initiated in 1942 to provide domestic sources of natural rubber during the war emergency and to carry on related research on native rubber-bearing plants. The project was a joint operation in the Department, and funds were allotted or transferred to the participating bureaus.

Up to the time when the decision was reached to discontinue planting of guayule, approximately 32,000 acres of this shrub had been planted in the fiscal years 1942-44. Harvesting and milling of shrub from these plantations commenced in the fiscal year 1945, which was the earliest feasible time to mill the shrub and recover the rubber from these young plants. Some wild guayule shrub from Texas was milled for rubber.

The Salinas mill, acquired from the Intercontinental Rubber Company and the Bakersfield mill on which construction was completed in May 1945, milled out an amount of rubber before liquidation was directed by the Congress, through the provisions of the First Supplemental Surplus Appropriation Rescission Act, 1946, approved February 18, 1946.

Fiscal Year 1946

As soon as the intent of the Congress that the project should be liquidated was made known, the mills were closed and bids on the Salinas mill and the Government's interest in the tributary plantations were solicited. When it was later determined that there was no market for the two mills, they were declared surplus to War Assets Administration.

Plantations were disposed of in the most economical manner, to a large extent by contracting with the landowner for the destruction of the shrub and the reconditioning of the land. In general, the leased land was returned to the owners in time for them to put in a crop for the 1946 season.

The labor camps and nurseries were sold, transferred, dismantled, or declared surplus and all project operating equipment was assembled, classified, and declared surplus to the War Assets Administration.

Essential research projects which had reached a stage where worthwhile results could be reached before the end of the fiscal year were completed. Other research was abandoned immediately after the liquidation order was received.

By the end of the fiscal year 1946 all plantation acreage had been returned to the owners, settlements made and releases obtained. A large part of the project property which had been reported surplus had not been physically disposed of, and remained in the custody of the Emergency Rubber Project.

Fiscal Year 1947

Upon the closing out of the guayule research project in June 1946, the indicator planting and experimental areas on leased land were disposed of. The scientific and technical equipment used by the research agencies was assembled, classified, and reported surplus to War Assets Administration. The remaining project operating equipment used in the disposal of plantations, and miscellaneous property and supplies were declared surplus to War Assets Administration and sales of miscellaneous property carried on to assist the War Assets Administration in the final disposal of this property.

Field offices of the Emergency Rubber Project were closed during the summer of 1946. The War Assets Administration has assumed custody of all the remaining rubber project property, including lands, mills, camps, nurseries, and other personal property not previously disposed of.

Files and records of the project will be retained in the Washington Office of the Forest Service. The field office of the Director of the Emergency Rubber Project at Los Angeles was closed on December 20, 1946.

FLOOD CONTROL

General: The Flood Control Act of 1936 gave recognition to destructive floods as a menace to the national welfare; to the need for investigations and improvements of the watersheds of rivers and other waterways in the interest of the general welfare; and to the need for the Federal Government to improve or participate in the improvement of such watersheds for flood control purposes. It provided that Federal investigations of watersheds and measures for run-off and waterflow retardation and soil erosion prevention on watersheds would be under the direction of and prosecuted by the Secretary of Agriculture. It and later amendatory and supplementary acts authorized the examination and survey of the watersheds of a large number of rivers and waterways.

The Act recognized that, in conducting a watershed treatment program on any watershed or subwatershed in the interest of flood control, the Secretary of Agriculture might find it necessary to utilize certain land treatment and water control measures of the kinds applied on a national basis under other programs but which, for flood control purposes, would be carefully correlated and combined with other needed measures and intensively applied on a watershed or subwatershed basis to attain specific waterflow and run-off retardation and erosion prevention objectives. It, accordingly, provided that the authority conferred by the Act and any funds appropriated pursuant thereto would be supplemental to all other authority and appropriations relating to the Department of Agriculture and that the Act should not be construed to limit or retard the Department in carrying out similar and related activities previously or later authorized or to limit the exercise of powers conferred on the Department by other provisions of law in carrying out similar and related activities.

Objective: Pursuant to the Flood Control Act of 1936, as amended, to carry out the responsibilities of the Department of Agriculture, in conducting authorized investigations and surveys of designated watersheds and in applying measures and in constructing works of improvement for run-off and waterflow retardation and soil erosion prevention in the interest of flood control

The Problem and its Significance: Accelerated and excessive run-off from watersheds of streams results in floods and erosion causing loss of life and human suffering; impairment of soil productivity; damage to improvements, crops, livestock, and equipment; loss of fertile soil and of usable water resources; siltation of reservoirs, channels, and ditches; and impairment and obstruction of highways, railroads, navigation, and other channels of commerce.

A reduction in flood damage can be obtained by watershed treatment. Such treatment includes the wise use of land and measures to bring this about, the care and protection of natural vegetation, revegetation of denuded areas, control of fire and grazing, use of proper forest cutting and logging practices, wise husbandry of the soil, proper selection of crops, and the use of crop rotations, the use of supplemental engineering devices, and the application of other measures and

practices to forests, pastures, and croplands. Work of the Department has demonstrated that such treatment will result in returns both to the public as a whole and to the landowner. Examinations and surveys of authorized areas, looking toward such watershed treatment work, were started by the Department in 1936 and continued until 1943 when they were suspended because of the war.

Plan of Work: Over 600 watersheds have been authorized by the Flood Control Acts for preliminary examination and survey. The Department has completed preliminary examinations of 154 watersheds and has completed surveys of 18 watersheds. The Flood Control Act of December 22, 1944 authorized programs of improvement set forth in the survey reports on 11 specified watersheds.

Survey work has been resumed on several of the 32 watersheds upon which some work was done prior to the war. A start has been made in the installation of works of improvement on each of the 11 watersheds for which such programs have been approved.

The Department plans to complete surveys of watersheds where preliminary examinations indicate sufficient flood and sediment reduction benefits to warrant such action and to examine other authorized watersheds as funds are made available. It also plans to progress with the installation of works of improvement on the 11 watersheds where such programs have been approved in accordance with the schedules contained in the approved reports to the extent that funds are provided.

In view of the important protective relationship of watershed works of improvement to flood control and other works in stream channels now installed, authorized and contemplated by the Corps of Engineers and other public agencies and of the critical need for protection of farm lands, improvements, crops and other property from flood and sedimentation damage, the Department wishes to come abreast, at the earliest possible time, of complementary work in the stream channels by the Corps of Engineers of the War Department and to provide what protection it can to upstream areas.

In the conduct of their work, the Departments of War and Agriculture are continuing to integrate their examinations and surveys under the Flood Control Acts as they have done in the past and so achieve a maximum of coordination in both planning and action. Integration is also continuing with other agencies, Federal, State and local.

Description of Works of Improvement, by Watersheds:

a. Buffalo Creek Watershed - New York

House Document No. 574, 78th Congress, 2nd Session.

Summary of Work Provided for in the Survey Report: Work calls for a general farm land treatment program and control of gullies. Lands on which tillage produces excessive run-off and erosion will be removed from cultivation. Lands to be continued under intensive production of crops and in pasture will be improved by such practices as contour cultivation, contour strip cropping, soil conserving rotations, terraces and intercepting ditches, improved drainage channels, and fencing to protect woodlands and pastures, all of which tend to reduce floods. Submarginal lands which contribute heavily to sedimentation in Buffalo Harbor will be placed under public ownership through purchase by State or local agencies and will be revegetated. Gullies will be controlled and bank slopes stabilized by vegetation or check dams.

Time required to install the approved program 18 years

Division of installation costs as shown in Survey Reports:

Federal Government	\$2,581,400
State and Local Governments	40,000
Farmers (based on 80% participation)	354,583
Total cost of installation	2,975,983

Total amount of authorized Federal expenditures \$2,581,400

Works of Improvement Proposed for Fiscal Year 1948: Works of improvement are proposed to be initiated on three subwatersheds of the Buffalo Creek Watershed, totaling 10,745 acres in area, which were selected with the assistance of a committee of supervisors representing the concerned soil conservation districts and determined to have high priority from the standpoint of flood water and sediment production. Work will also continue in the four subwatersheds begun in the 1947 fiscal year.

The work plan for each subwatershed provides for orderly disposal of water, conforming to the water control pattern for the entire watershed. Arrangements and agreements have been made for cooperation with soil conservation districts, county boards and other local and State groups in carrying out the work.

Emphasis will be placed on the establishment of measures to correct community flood and sedimentation problems and to produce benefits of major importance to groups rather than to the individual owners of the land on which the measures are located. Flood control conservation practices and measures planned on a natural subwatershed basis and applied cooperatively by groups of land owners and operators will likewise have high priority. The application of con-

servation practices and measures which contribute directly to flood damage reduction will be intensified to help assure their installation within the period recommended by the survey report. Local public agencies will be assisted to carry on cooperative reforestation work on 300 acres to supplement work on agricultural lands in some subwatersheds. Local agencies will acquire land submarginal for agriculture for this purpose, based on land classification studies, and the Department will assist in planting the land.

Amount estimated to be obligated by Department of Agriculture in fiscal year 1948:

Soil Conservation Service	\$57,500
Forest Service	3,000
Total amount for fiscal year 1948	60,500

b. Potomac River Watershed - Pa., Va., Md., and W. Va.

House Document No. 269, 78th Congress, 1st Session

Summary of Work Provided for in the Survey Report: The flood control program on the non-forested parts of this watershed will emphasize the retardation of surface run-off and control of erosion through shifts in use of presently cropped and pastured acreages and their subsequent treatment and management, the rebuilding of permanent pasture to forest. Contour cultivation, strip cropping and grassed waterways will have extensive application on lands to remain in crops. The forested area is to be protected from fire and owners of forest land are to be furnished technical assistance in managing their forest lands so they contribute effectively to run-off retardation and erosion control.

Time required to install the approved program 24 years

Division of installation of costs as shown in Survey Report:

Federal Government	\$859,189
State and Local Governments	96,805
Farmers (based on 49% participation)	943,834
Nonfarm Owners (based on 68% participation) ..	130,525
Total cost of installation	2,030,353

Total amount of authorized Federal expenditures .. \$859,000

Works of Improvement Proposed for Fiscal Year 1948: Works of improvement are proposed to be initiated on five subwatersheds, selected with the assistance of the supervisors of the soil conservation districts, in problem areas and determined to have high priority from the standpoint of flood water and sediment production.

The work plan for each subwatershed provides for orderly disposal of water, conforming to the water control pattern for the entire watershed. The location of specific practices and measures has been

determined and their order of establishment correlated to the entire system of water control. Arrangements and agreements have been made for cooperation with soil conservation districts, county boards and other local and State groups in carrying out the work.

Emphasis will be placed on the application of measures to correct community flood and sedimentation problems which will produce benefits of major importance both in and below the watershed. Flood control conservation practices and measures planned on a natural sub-watershed basis and applied cooperatively by groups of land owners and operators will likewise have high priority. Application of conservation practices and measures which contribute directly to flood reduction damages will be intensified, to help assure that their installation is correlated with other related measures and that they are completed within the period set forth by the survey report. Forest land owners will be furnished cooperative aid to accomplish reduction of watershed damage caused by timber operations in the high watersheds as a measure to complement watershed improvement work on agricultural lands. Fire protection on the George Washington and Monongohela National Forests will be intensified to maintain average annual fire losses at .001 of forest acreage.

Amount estimated to be obligated by the Department of Agriculture in fiscal year 1948:

Soil Conservation Service	\$35,000
Forest Service	18,400
Total amount for fiscal year 1948	<u>53,400</u>

c. Coosa River Watershed - Georgia and Tennessee

House Document No. 236, 78th Congress, 1st Session

Summary of Work Provided for in the Survey Report: The program to be installed in aid of flood control is one of improved land use and management that includes practices which will conserve soil, increase infiltration capacity, reduce run-off, and improve soil fertility. The principal practices to be installed are proper crop rotations including summer and winter crops; strip cropping, perennial hay; water disposal systems including terraces, diversion channels, and drainageways; contour tillage; proper pasture management and improvement; and gully control by structures and vegetative cover. Farm woodlands will be protected against fire and grazing.

Time required to install the approved program 20 years

Division of installation costs as shown in Survey Report:

Federal Government	\$1,232,609
State and Local Governments	8,565
Farmers (based on 85% participation)	<u>1,107,857</u>
Total cost of installation	<u>2,349,031</u>

Total amount of authorized Federal expenditures \$1,233,000

Works of Improvement Proposed for Fiscal Year 1948: Works of improvement are to be initiated on one subwatershed of the Coosa River, totaling some 32,800 acres, selected with the assistance of supervisors representing all of the soil conservation districts in the watershed and determined to have high priority from the standpoint of flood water and sediment production.

The work plan for the subwatershed shows the kind and amount of practices and measures to be installed and the extent to which the cooperating parties will participate in their application and cost. Arrangements have been made for cooperation with soil conservation districts, county boards, and other local and State groups in carrying out the work.

It is expected that the design, layout and application of the planned practices and measures will be completed for approximately 16 percent of the total acreage of farm land within the selected subwatershed during the year.

Emphasis will be placed on the establishment of measures to correct community flood and sedimentation problems and to produce benefits of major importance to groups rather than to those owning the land on which the measures are located. Flood control conservation practices and measures planned on a natural subwatershed basis and applied cooperatively by groups of land owners and operators will have high priority. Application of conservation practices and measures which contribute directly to flood reduction damages will be intensified and preparation of flood control conservation farm plans will proceed at an accelerated rate.

Amount estimated to be obligated by the Department of Agriculture in fiscal year 1948:

Soil Conservation Service \$37,000

d. Little Tallahatchie Watershed - Mississippi

House Document No. 892, 77th Congress, 2nd Session

Summary of Work Provided for in the Survey Report: The work will involve treating cultivable land to conserve soil and water through introduction of improved cropping practices and the construction of terraces and diversion channels; decreasing flood run-off from existing and proposed pasture lands by such measures as contour furrowing, seeding and planting, establishment of erosion control structures, fencing, and general maintenance; controlling erosion in gullies, ditches and along roads with vegetation and simple structures; protecting the area from forest fires; acquisition and reforestation of badly eroded lands by the Federal Government; and assistance to families leaving acquired farms to establish themselves on other farms.

Time required to install the approved program 20 years

Division of installation costs as shown in Survey Report:

Federal Government	\$4,220,805
State and Local Governments	472,080
Farmers (based on 80% participation)	1,223,920
Total cost of installation	5,916,805

Total amount of authorized Federal expenditures . \$4,221,000

Works of Improvement Proposed for Fiscal Year 1948: Works of improvement are proposed to be initiated on a subwatershed basis, selected with the assistance of the soil conservation district governing bodies and with priority given to those subwatersheds having acute flood and sediment problems. Measures will be installed to provide water disposal systems for each subwatershed and assistance will be given in improving cover conditions on critical areas. Road-side erosion control work on about 25 miles of road will be continued.

Amount estimated to be obligated by the Department of Agriculture in fiscal year 1948:

Soil Conservation Service	\$43,000
Forest Service	16,000
Total amount for fiscal year 1948	59,000

e. Yazoo River Watershed - Mississippi

House Document No. 564, 78th Congress, 2nd Session

Summary of Work Provided for in the Survey Report: The work will involve treating cultivable land to conserve soil and water through introduction of improved cropping practices and the construction of terraces and diversion channels; decreasing flood run-off from existing and proposed pasture lands by such measures as contour furrowing, seeding, and planting, establishment of erosion control structures, fencing, and general maintenance, controlling erosion in gullies, ditches and along roads with vegetation and simple structures; protecting the area from forest fires; acquisition and reforestation of badly eroded lands by the Federal Government; and assistance to families leaving acquired farms to establish themselves on other farms.

Time required to install the approved program 20 years

Division of installation costs as shown in Survey Report:

Federal Government	\$21,721,205
State and Local Governments	1,198,218
Farmers (based on 25-90% participation)	2,354,404
Total cost of installation	25,273,827

Total amount of authorized Federal expenditures . \$21,700,000

Works of Improvement Proposed for Fiscal Year 1948: Works of improvement are proposed to be carried out on a subwatershed basis, the subwatersheds to be selected with the counsel of the governing bodies of concerned soil conservation districts and priority given to those areas where flood and sedimentation damages are most acute. Work plans for each subwatershed will provide for a more orderly disposal of surface discharge and a reduction in the rate of damaging erosion. Emphasis will be placed upon revegetation as a major measure to implement the reduction in both erosion and water discharge rates.

Amount estimated to be obligated by the Department of Agriculture in fiscal year 1948:

Soil Conservation Service \$31,000

f. Little Sioux River Watershed - Iowa and Minnesota

House Document No. 268, 78th Congress, 1st Session

Summary of Work Provided for in the Survey Report: The work in this watershed emphasizes the building of structures to control major gullies. Earth dams will be constructed across main gullies at strategic locations with numerous flumes and other devices utilized for lowering water into the gully system without causing cutting or erosion. The solution to the water and land problems will be accomplished by integrating the several devices into a unified system based on hydraulic studies and plans for each tributary or subwatershed that is designed to manage water and reduce flood heights. Treatment of farm lands, the other important phase of the program, will consist of practices and measures to reduce run-off at its source and minimize erosion, including terracing; contour cultivation; small gully control with grassed waterways, sod flumes, diversion dikes, streambank protection, and vegetative cover; and improvement of woodlands and present forest areas through better management, grazing protection, and tree planting.

Time required to install the approved program ... 15 years

Division of installation costs as shown in Survey Report:

Federal Government	\$4,279,524
State and Local Governments	368,410
Farmers (based on 70% participation)	1,259,469
Total cost of installation	5,907,403

Total amount of authorized Federal expenditures . \$4,280,000

Works of Improvement Proposed for Fiscal Year 1948: Works of improvement are proposed to be initiated on two subwatersheds, totaling 3,100 acres. They have been assigned a priority by the Little Sioux Agricultural Committee, organized primarily for the purpose of cooperating with the Department of Agriculture in carrying out the watershed improvement program and representing all counties and soil conservation districts within the watershed. Work will also continue

in the four subwatersheds which were started in the 1947 fiscal year.

The work in each subwatershed will include the installation of measures to reduce flood water and sediment production by establishing complete water disposal systems and by assisting in making certain land use changes. This work will be carried on through cooperation with soil conservation districts, county boards, and other local and State groups. Residents living within the subwatersheds selected have organized for the purpose of sponsoring the installation of a complete watershed treatment program.

Emphasis will be placed on the establishment of major gully control works to correct community flood and sedimentation problems and which will produce benefits of major importance both in and below the watershed. Flood control conservation practices and measures planned on a subwatershed basis and applied cooperatively by groups of land owners and operators will also have a high priority.

Amount estimated to be obligated by the Department of Agriculture in fiscal year 1948:

Soil Conservation Service \$141,500

f. Middle Colorado River Watershed - Texas

House Document No. 270, 78th Congress, 1st Session.

Summary of Work Provided for in the Survey Report: The work will involve four major considerations, most important of which in the interest of flood control will be the improvement of range cover accomplished through better management of both pasture and livestock, reduction of approximately 50 percent in number of animal units, supplementary feeding, installation of contour furrows and contour ridges to retard run-off, and construction of stockwater tanks. Severely eroded lands will be converted to pasture and such water conservation measures as contour furrowing, ridging, and listing will be installed. On cultivated land such mechanical measures and improved practices as terracing, crop rotation, contour cultivation, strip cropping, stubble mulching, contour furrows, and ridges will be provided to retard run-off and prevent soil erosion.

Time required to install the approved program 20 years

Division of installation costs as shown in Survey Report:

Federal Government	\$2,693,128
Farmers (based on 50% participation)	666,975
Total cost of installation	3,360,103

Total amount of authorized Federal expenditure ..\$2,693,000

Works of Improvement Proposed for Fiscal Year 1948: Works of improvement will be installed in subwatersheds which are heavy flood

and silt source areas, on the basis of work plans prepared for each subwatershed. The work plans call for installation of measures, such as water disposal systems and conservation practices and measures, to reduce flood water and sediment production. Revegetation of severely eroded areas is especially important. This work will be carried on through cooperation with soil conservation districts and other local groups.

Emphasis will be placed upon installation of works to help correct community flood and sedimentation problems and to produce benefits both in and below the watershed. Flood control conservation practices and measures planned on a subwatershed basis and applied cooperatively by groups of land owners and operators will also have a high priority.

Amount estimated to be obligated by the Department of Agriculture in fiscal year 1948:

Soil Conservation Service \$66,000

h. Trinity River Watershed - Texas

House Document No. 708, 77th Congress, 2nd Session

Summary of Work Provided for in the Survey Report: The work will involve conversion of land to the use for which it is best suited from the standpoint of good land use and flood control, improvements in cropping systems to conserve water and prevent soil erosion, installation of mechanical structures to control gullies and manage waterflow, and protection of the forested areas from fire. Lands so severely eroded that they are unfit for the support of farm families and must be retired, at least temporarily, from further agricultural use will be acquired by the Federal Government and treated to reduce run-off and soil erosion. They will be revegetated and grazed according to their ability to support livestock and contribute effectively to flood control. The treatment of farm lands will consist of improved soil and water conservation measures and practices on cultivated lands, pasture and meadow lands, range lands, and farm woodlands.

Time required to install the approved program 15 years

Division of installation costs as shown in Survey Report:

Federal Government	\$31,841,824
State and Local Governments	9,000
Farmers (based on 37-80% participation) ..	13,783,904
Total cost of installation	45,634,728

Total amount of authorized Federal expenditures \$32,000,000

Works of Improvement Proposed for Fiscal Year 1948: Works of improvement will be installed in subwatersheds which are heavy flood

and silt source areas, on the basis of work plans prepared for each subwatershed. The work plans call for installation of measures, such as water disposal systems and conservation practices and measures, to reduce flood water and sediment production. Revegetation of severely eroded areas is especially important. This work will be carried on through cooperation with soil conservation districts and other local groups.

Emphasis will be placed upon installation of works to help correct community flood and sedimentation problems and to produce benefits both in and below the watershed. Flood control conservation practices and measures planned on a subwatershed basis and applied cooperatively by groups of land owners and operators will also have a high priority.

Amount estimated to be obligated by the Department of Agriculture in fiscal year 1948:

Soil Conservation Service \$535,000

i. Washita River Watershed - Oklahoma and Texas

House Document No. 275, 78th Congress, 1st Session

Summary of Work Provided for in the Survey Report: The flood control program in this watershed will consist of applying the following general land and water treatment measures and practices:

- (1) Cultivated lands
Crop rotations, cover crops, strip cropping, terraces, diversion terraces, contour cultivation and shelterbelts.
- (2) Farm land retired from cultivation
Revegetation, mechanical controls including contour furrows and gully control.
- (3) Pasture and range lands
Proper stocking and rotation of grazing, and mechanical measures including terracing and contour furrowing.
- (4) Farm woodlands
Proper management of woodlands, including planting, fire protection, grazing control, and good cutting practices.

The program also involves the purchase and treatment of submarginal land and assisting farm families leaving acquired farms to reestablish themselves on other farms. Approximately 328,000 acres of land are to be purchased and stabilized by revegetation and other measures where necessary.

Time required to install the approved program 15 years

Division of installation costs as shown in Survey Report:

Federal Government	\$10,928,611
Farmers (based on 55.7%-59% participation)	3,169,633
Total cost of installation	14,098,244

Total amount of authorized Federal expenditures ..\$11,243,000

Works of Improvement Proposed for Fiscal Year 1948: Works of improvement will be installed in subwatersheds which are heavy flood and silt source areas, on the basis of work plans prepared for each subwatershed. The work plans call for installation of measures, such as water disposal systems and conservation practices and measures, to reduce flood water and sediment production. Revegetation of severely eroded areas is especially important. This work will be carried on through cooperation with soil conservation districts and other local groups.

Emphasis will be placed upon installation of works to help correct community flood and sedimentation problems and to produce benefits both in and below the watershed. Flood control conservation practices and measures planned on a subwatershed basis and applied cooperatively by groups of land owners and operators will also have a high priority.

Amount estimated to be obligated by the Department of Agriculture in fiscal year 1948:

Soil Conservation Service \$229,000

j. Los Angeles River Watershed - California

House Document No. 426, 77th Congress, 1st Session

Summary of Work Provided for in the Survey Reports: The work consists of two broad phases, one dealing with the agricultural area and the other with the mountain area. The agricultural area improvements and treatments comprise:

- (1) Correct tillage methods, contour ridging and ditching, terracing, basin listing, and improvement of irrigation practices to control silt movement and retard run-off;
- (2) Improvements to land by use of green manure and cover crops, pasture and range management, tree planting and woodland management, and retirement of land from cultivation;
- (3) Minor construction works on individual properties such as terraces, terrace outlets, various kinds of check dams and flumes, bank revetments, and diversion channels;
- (4) Community-type construction to control large gullies and correct drainage systems; and
- (5) Debris basins and channels to protect agricultural land from flood and debris flows.

The mountain area improvements include installation of structures in stream channels to control flood debris; stabilization of road slopes;

revegetation of denuded areas; and intensification of the existing fire control system to hold burn-overs of potential flood source areas to a minimum.

Time required to install the approved program 10 years

Division of installation costs as shown in Survey Report:

Federal Government	\$8,379,635
State and Local Governments	1,884,775
Farmers (based on 77% participation)	1,151,759
Total cost of installation	11,416,169

Total amount of authorized Federal expenditures \$8,380,000

Works of Improvement Proposed for Fiscal Year 1948: Works of improvement are proposed to be initiated on the Bell Creek subwatershed of 14,588 acres. Installation of works of improvement on the Wilbur Creek watershed will also be continued. These areas have been selected in collaboration with the San Fernando Valley Soil Conservation District, the City of Los Angeles, and the Los Angeles County Flood Control District, who are contributing to the work. The criteria used in their selection are high rates of sediment production, excessive run-off, and inadequate channel capacities which, in combination, result in high flood water and sediment damages.

The dominant program in these areas consists of structural work leading toward the ultimate stabilization of minor channels with adequate discharge capacities and establishment of community channels to facilitate orderly water disposal from the watershed lands. This integrated water disposal system is to be supported and protected by conservation practices which will be installed and maintained by the farmers with technical assistance supplied by the Department.

Intensification of fire protection in the Angeles National Forest will be continued. This will include completion of one fire control road, the construction and equipping of one fire suppression station and the construction of water developments for collection and storage of water for fire suppression purposes by tank trucks.

Bettering of existing roads to prevent erosion from road banks will be continued. Plant cover will be reestablished on mountain slopes to prevent erosion and water loss and to increase the infiltration and water storage capacity of the soil.

Construction of channel stabilizing improvements on a subwatershed basis will be continued to prevent further channel down-cutting and to stabilize channel bed loads and adjacent side slopes.

Improvements installed for watershed improvement purposes, including roads, fire control stations, erosion control measures, fire equipment and channel control works will be maintained.

Amount estimated to be obligated by Department of Agriculture in fiscal year 1948:

Soil Conservation Service	\$150,000
Forest Service	307,635
Total amount for fiscal year 1948	457,635

k. Santa Ynez River Watershed - California

House Document No. 518, 78th Congress, 2nd Session

Summary of Work Provided for in the Survey Report: The work consists of farm land treatment including changes in rotation, general cultural practices, and retirement of eroding cropland to grazing use; construction of terraces, head-cut controls, check dams, diversion dams, and grassed waterways; clearing of debris from channels, construction of new channels, and the sloping and planting of gully banks; protection of the forest lands from fire; and acquisition of 2,000 acres of high fire hazard land within the national forest.

Time required to install the approved program 10 years

Division of installation costs as shown in Survey Report:

Federal Government	\$434,360
State and Local Governments	13,442
Total cost of installation	447,802

Total amount of authorized Federal expenditures . \$434,000

Works of Improvement Proposed for Fiscal Year 1948: It is proposed to continue works of improvement on three subwatersheds, totaling 12,800 acres, all of which were selected for first priority work on the basis of counsel from the directors of the Lompoc Soil Conservation District. Landowners within the basins are acutely aware of their flood problems and have expressed a willingness to cooperate with and participate in the proposed remedial measures.

The work plans prepared for the subwatersheds provide for installations primarily to effect a more orderly disposal of flood waters from the land surface and through existing channels, with emphasis on channel works that will provide a more effective and efficient flow of excess run-off. Location of specific control measures has been determined and their inter-relation for an ordered discharge of water coordinated.

Amount estimated to be obligated by Department of Agriculture in fiscal year 1948:

Soil Conservation Service	\$45,000
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SOIL CONSERVATION SERVICE

(a) Soil Conservation Research

Objective: The work is concerned with the development, improvement, and adaptation of practical and efficient conservation farming methods and practices and sound land-use principles in order to provide sound technical data and bases for the soil and water conservation programs of the Soil Conservation Service and the related conservation and land-use programs of other Federal and State agencies.

The Problem and its Significance: Improper land use and exploitive farming methods have caused enormous waste of soil and water resources and many problems, both physical and economic. Protection against erosion, water loss, and unwise use of land, and the consequent loss of productivity of the land, can be secured by conservation farming. This means farming land according to its capabilities (or adaptabilities) and treating every acre according to its individual needs. The soil and water conserving practices recommended for installation must be based upon facts established by investigation and research and not upon estimates or guesses. This is important because the success of the soil and water conservation and land-use programs administered by the Service is dependent upon their technical soundness.

Research into the character, causes, extent, and effect of erosion and soil and water depletion has resulted in development of many new practices and farming methods to be used for the protection of the land. However, erosion and land-use problems vary everywhere; therefore established practices must frequently be modified to meet peculiar local conditions. New, improved, or adapted practices must be tested and proved effective and practical by field trials and tests before they can be applied with assurance over areas varying in soils, climate, and agricultural practices. There is a continuing need for intensive and wide-ranging conservation research as there are many erosion control, water disposal and use, and land-use problems which require further study and experimental tests, and new problems arise from day to day. The research work of the Soil Conservation Service is specifically directed at problems which arise in the day-to-day field operations of the Service and is an integral part of the service rendered to conservation, irrigation, and drainage districts and to other Federal and State agencies engaged in conservation work.

General Plan: "Research" and "Operations" work in the Soil Conservation Service are so coordinated as to provide for immediate application of special research findings. No research is undertaken except on problems which directly affect the soil and water conservation programs administered by the Service. As soon as the trend of results from a study can be perceived, measures promising to solve the problems involved are developed and tested. The development and improvement of conservation practices is accomplished in three distinct steps, as follows:

- (1) Laboratory and plot work to develop basic information.
- (2) Experiment station field scale trials of practices.
- (3) Adaptation and testing of practices for application over extensive areas.

The first and second steps are primarily research functions, the third the joint responsibility of the "Research" and "Operations" staffs. After they have been tested the new practices and methods are, of course, incorporated into the regular soil and water conservation programs.

The program of research is cooperative with the State Experiment Stations and other agricultural agencies of the Department and the States. The State agencies, by agreement with the Secretary of Agriculture, cooperate with the Soil Conservation Service in the conduct of the work, and in most cases furnish land, laboratories, office facilities, and technical assistance as part of their cooperation. The research work of the Service is correlated with that of the Agricultural Research Administration of the Department, thus avoiding duplication and assuring desirable cooperation with other research bureaus.

Frequent inspection of the studies in progress are made by groups of farmers, Service technicians, extension workers, and others, thus permitting quick practical use of the research data developed. The results are also given wide circulation through local papers, farm magazines, scientific papers, and State and Department bulletins. The published records containing the conclusive evidence make the information available whenever it might be needed by State Soil Conservation Committees, Conservation district governing bodies, and others, for considering and planning soil and water conservation and land-use programs.

Examples of Progress and Current Program: Recent accomplishments under this appropriation are cited by projects to show progress being made. Investigations and studies on which increased emphasis is now being placed are also explained.

Erosion control investigations: The work conducted under this project includes the development of agronomic, mechanical, and vegetative means of controlling erosion and conserving soil moisture; studies of soil deterioration by erosion and other causes, and development of protective treatments, development of improved soil tillage techniques and cropping systems; development of specialized protective measures for areas that are too steep for ordinary farming methods; study of erosion-resisting characteristics of crop plants; studies of the effects of crops, cropping systems, climate, and wind upon soil and water loss, and development of control measures; and investigations to determine the effects of conservation farming upon the farmers' income and living standards.

Land-use Planning

Emphasis has been placed upon developing practical land-use and conservation practices which allow the farmer maximum flexibility in choice of crops, crop rotations, and land treatments which are consistent with the inherent use-capabilities of his land. This plan permits the farmer optimum leeway in adjusting his farming to important considerations such as market opportunities, labor supply, and soil care.

Causes of Soil Deterioration

The underlying principles and factors which affect soil deterioration due to wind and water erosion and other causes are being evaluated and clarified through lines of basic research that furnish the basis for development of practical erosion control measures in accordance with local needs. Farming areas are affected differently by endless combinations of variable factors of soil type, slope degree and length, rain-fall characteristics, farming habits, etc. The influence of these variables alone and in combinations must be evaluated by research and farming practices that are effective in protecting soil and storing and conserving soil moisture developed and tested.

Effect of Organic Matter on Soil and Soil Moisture

Investigations have shown that a soil's ability to take in water rapidly and to hold and supply crop plants with maximum amounts of moisture and available plant nutrients depends upon the organic matter content of the soil and favorable soil structure resulting from the presence of soil organisms. A soil with these properties is also shown to have increased resistance to erosion. Many erosion-control cropping practices have, therefore, been designed and developed to add maximum quantities of organic matter to the soil. Rotations that include sod crops, between season green manure and winter cover crops, crop residue left on the land, and applications of barnyard manure, composts, and mulch material are tested practices that are now being extensively used on farms to retain or build up organic matter in the soil.

Mulching to Protect Soil

The impact of raindrops upon exposed soil was found to be an important cause of soil deterioration which could be largely prevented by protecting the soil surface by vegetation and crop residues particularly during the growing season. Stubble mulch and mulch farming systems which make use of crop residues and cover crops to protect the soil surface have been developed and adapted to practical field use in many parts of the country. In this connection it has been necessary to develop subsurface tillage tools and equipment which can be operated in such a manner as to retain the plant residues on or near the soil surface.

Control of Running Water

The down-hill movement of water in excess of that which can be absorbed by the soil is an important cause of soil loss, which ultimately causes accelerated sheet and gully erosion. Supplemental practices of mechanical nature which check its speed and conduct the run-off from the field before destructive volumes and velocities are built up have been developed for a wide variety of field conditions. Terracing, strip cropping and controlled row-grade systems are practices that have been developed and extensively applied for this purpose. It has been found that on most soils the intake of water is increased and run-off decreased by surface vegetative material which effectively protects the soil against the force of raindrops and prolongs the length of time the water remains on the soil. Many practices have been developed to use close growing crop plants, cover crops, crop residues and mulches to protect the soil surface and increase storage of water.

Practical Conservation Practices

Studies have shown that ordinary cultivation of farm land creates the greatest man-made erosion hazard by making the soil subject to rapid deterioration and movement by wind and water. Extensive studies on corrective measures on this phase of the problem have been carried out in many parts of the country and the practical results are receiving wide-spread farm application. Across-slope cultivation, application of mulches and organic amendments, retaining crop residues on the surface by use of subsurface tillage implements, increasing the proportion of close growing and sod-forming crops in crop rotations, and winter cover crops, together with the necessary development of implements and techniques best suited to the particular needs are among the important soil and water conservation measures that have been developed.

Special Treatment of Steep Lands

Investigations have shown the necessity for reducing and modifying cultivation on steep land because of the high natural erosion hazard. Progress has been made in developing improved planting and management methods for growing erosion-resisting crops of good economic value on these lands. Methods for establishing hay crops, such as alfalfa, alfalfa-grass mixtures, etc., without plowing have given outstanding results. Bench terraces of various types and other specialized cultural practices for growing on these steep lands such crops as fruits, nuts, berries, trees, improved strains of forage species and other specialized crops are showing good promise.

Principles of Wind Erosion Control

In wind erosion areas, wind tunnel studies and studies of climatic and physiographic factors are furnishing basic information on the causes and manner of soil movement by wind. From these studies control measures have been developed which include the use of barriers, wind-breaks, vegetative covers, surface treatments, and land management practices.

Rates of Soil Decline

Information secured from studies on the causes and rates of erosion for different soils and under different climatic influences has furnished the basic data for establishing differential rates of soil decline within the United States. This makes it possible to establish ratings for the many basic resource areas of the country on a time priority basis as a guide to concentration of effort in erosion control operations.

Economic Benefits of Conservation Farming

Benefits derived from conservation farming are carefully considered and evaluated throughout the erosion control investigations as practices are undergoing development for practical use by farmers. All recommended practices are checked for their beneficial effects in preventing soil deterioration or conserving moisture. Thus, each approved practice has a positive conservation value. Since most conservation practices involve installation costs or land-use changes, their effects on the farmers' immediate and future net income is also important. Many of the practices have been shown to reduce labor costs, save fuel, reduce wear and tear on equipment, and to give a substantial immediate increase in per-acre crop yield over ordinary practices. The studies show that crop-yield benefits become more and more evident with time after the practices are established. This is due to increased efficiency of the farmer as his experience grows and to the progressive improvement in soil and cropping conditions brought about by the practices. Records compiled to date show that wherever complete conservation farming plans are in effect, production and earnings are steadily increasing as compared with farms upon which conservation methods have not been applied.

Drainage and water control investigations in humid areas: The work carried on under this project includes investigations to develop, test, and improve methods, materials, devices, and equipment for drainage of agricultural lands; to determine the relation of water run-off, soil erosion, and flood flow to physiographic and climatologic conditions of the drainage area and to land-use and farming practices; and to devise means for controlling sedimentation in reservoirs and on valley lands. It also includes investigations in the Eastern States relating to irrigation under humid conditions.

Practical and Inexpensive Drainage Methods

Investigations of the practical utility of mole drains in various soil types are being continued, to design a moling machine that will make the most satisfactory drain and to learn where and under what conditions this kind of drain will be effective and economical. Mole drains are much less costly to install per mile than tile drains, but are also less durable. It is hoped they may prove suitable for many tight soils where effective drainage requires such close spacing that the high cost of tile, per acre, prohibits use of that material. An improved mole point and expander hitch have been devised that obtain a drain of

smoother and more uniform section, with less expenditure of power and less rupture of the ground surface. These improvements are expected to result in longer life for the drains and consequently less expense to the farm owner. Experimental mole drains have been installed in North Dakota, Indiana, Pennsylvania, and Louisiana.

Effect of Drainage on Truck Crops

Studies of drainage needs of crop plants on muck soils in northern Indiana have obtained yields of peppermint oil, peppermint hay, sweet corn, potatoes, red beets, carrots, and onions very much greater, in several cases more than twice as great, from plots where the water table was held at depths of 27 to 40 inches than where it was only 16 inches below ground surface. A single year's results can be considered only as generally indicative, but if these early differences are truly representative, a considerable investment for water control would be profitable on these lands and on extensive areas of similar soils elsewhere in this and other States.

Ground Water Flow and Tile Spacing

During the past year, installations of special equipment have been made to study the relation between ground-water flow and certain measurable qualities of the soil, in order to develop a method of calculating the effective and economical depth and spacing for tile drains. Relationships developed by some investigators have been found by others to be not of general application, so the design of farm drainage systems is still, after more than a century of experience in the United States, largely a matter of judgment on the part of the engineer, the farmer, or the ditcher. Success of these studies will make it possible to plan the most economical or profitable drainage system for any particular situation. Because the investigation must be conducted under field conditions, where such factors as precipitation and temperature cannot be controlled, it must be continued through some years in order that the findings may be dependable.

Supplemental Irrigation in Humid Areas

Investigations as to value of irrigation to supply temporary deficiencies in rainfall, and as to economical methods of distributing the irrigation water, have been undertaken in Georgia and in Florida. Test plots have been arranged with pumps, distribution pipes, and nozzles for applying the water and with devices for measuring water used and the fluctuations in soil moisture. The growth and yields of different crops on irrigated and on unirrigated plots will be measured. The experiments deal with truck crops in the Piedmont of Georgia, oranges in central Florida, and subtropical fruits in extreme southern Florida.

Effect of Soil Conservation Practices on Peak Run-off Rates

Studies to determine the effectiveness of various erosion-control practices in conserving soil and water and in reducing the peak rates of

surface run-off are being continued at conservation experiment stations in cooperation with the State agricultural experiment stations. To obtain conclusive results from such studies it is necessary that they be continued through a wide range of climatic conditions and at as many locations, representative of principal physiographic areas, as possible. The findings from these experiments increase in reliability and conclusiveness with the number of experiments and with the length of record obtained. Preliminary analyses and reports are prepared from time to time for use of field technicians of the Service, county agents, and other interested parties. The recommendations of the Service are developed or modified in accordance with the findings of these and similar reports.

Farm Pond Construction

There is a demand for hydrologic data upon which to base the design of the thousands of farm ponds being constructed annually in the central, southern, and Southeastern portions of the country. To meet this need for design data, all available rainfall, run-off, and evaporation records for several physiographic areas were analyzed and reports were prepared. Here again, the conclusiveness and reliability of these reports depend upon length of record and it is planned to issue supplemental reports from time to time as additional data become available. There is still, however, a need for similar design data in the many physiographic areas not covered by these reports and for which no such data are now being collected.

Design of Effective Water Disposal Structures

Much important work has been accomplished at the hydraulic laboratories at Pasadena, California, Stillwater, Oklahoma, and Minneapolis, Minnesota. As a result of model studies, several spillways were reconstructed and serious erosion of the stream channels was eliminated. A rectangular spillway was developed and design instructions were published. A graphical method of vegetal-channel design was developed that recognizes the variation of the retardance coefficient in Manning's formula with depth and velocity of flow. Prior to the laboratory tests, this coefficient was thought to be constant. The need for information derived from such studies is demonstrated by the fact that results obtained from even preliminary tests are put to immediate use by Service technicians.

Control of Sedimentation in Reservoirs and Streams

Sedimentation investigations to determine effects of various watershed and climatic factors on rates of sediment production and to develop practical methods for controlling sedimentation in reservoirs and stream channels are being continued in various parts of the country.

Requests are constantly being received from conservation districts and other local, State, and Federal agencies and from private organizations for field investigations and research on specific sedimentation-control problems. A large part of the watershed treatment under the Department's

flood control program is directed toward prevention of direct sedimentation damages to agricultural lands and reservoirs, and toward control of sedimentation in stream channels where sedimentation is a direct cause of flood damages.

An analysis was completed of sedimentation data of 18 representative stock ponds in south central South Dakota. The results provided formulas useful in designing farm ponds and evaluating sedimentation damages to existing ponds in that area. Similar studies are planned to cover various climatic and watershed conditions in other regions.

A resurvey was made of Lake Decatur, Illinois, in cooperation with the Illinois Agricultural Experiment Station and the Illinois State Water Survey to determine effects of conservation practices on the rate of sedimentation of this reservoir. Analysis of field data and preparation of a report are in progress. Requests for this type of investigation have been received from numerous municipalities and water companies which have become increasingly concerned with effects of silting in storage reservoirs.

An analysis of rates of sediment production of the glacial-till plain area of the Upper Mississippi and Missouri River watersheds was made and furnished to engineers concerned with the design of certain stream-control works on the Missouri River. A similar analysis of sediment production in South Atlantic and Eastern Gulf drainage basins has been made for use in proposed flood-control investigations in this region, and studies of the same kind will be made for other sections of the country.

Irrigation and water conservation investigations in Western areas: The work being conducted under this project includes the development of engineering principles and methods of controlling, developing, storing, and conserving irrigation water supplies and of preventing erosion, siltation, and accumulation of alkali; development and improvement of farm irrigation systems and structures; development of drainage systems for irrigated land; development of efficient water utilization practices; and snow survey investigations and analyses to enable forecasting of irrigation water supplies.

Historic Background of Western Irrigation

During the 100-year period since irrigation was first practiced in Utah (1847-1947), approximately 31 million acres of irrigable land have been placed under irrigation systems in the seventeen Western States. Of this area only 21 million acres are actually irrigated. The remaining 10 million acres are not yet irrigated either because of an inadequate water supply or excess water and alkali. Of the 31 million acres, 9 percent (1940 census), or 2,790,000 acres, is in Reclamation projects developed under the Reclamation Act with Federal funds and 91 percent, or 28,210,000 acres, was developed largely by individuals or partnerships, through community effort or with other private capital. It is the responsibility of the Department of Agriculture through its research and action programs to devise ways and means of conserving the water

and increasing the productivity on a permanent basis of the land resources of these irrigated lands. It is the only agency giving engineering service to the 91 percent of the lands not in Federal Reclamation projects.

Up to 1940 there had been invested in farm irrigation works slightly over one billion dollars. Investment in farm buildings and machinery totaled another four billion dollars. In addition, irrigation farmers are paying approximately 80 million dollars annually for operation and maintenance expense. In spite of these huge investments and high annual costs, approximately 32 percent (9,920,000 acres) of the total area that has been covered with irrigation canals and ditches is not yet in production--after 100 years of experience--because the farmers have not been able to solve many of the problems relating to the efficient use of the land and water resources. In the meantime, additional lands within irrigation projects are going out of production because of lack of knowledge necessary to cope with drainage, alkali, fertility, and other soil deterioration problems.

Importance of Water to Western Agriculture

Water is generally the limiting factor in the agricultural development of an arid region. Efficient use of available supplies is therefore extremely important. Most of the irrigated lands depend upon natural streamflow for their water supply and as a result large areas of irrigated land have only a partial water supply. They have plenty of water during the spring run-off and little or not water during the latter part of the growing season. The development of supplemental water supplies for lands within existing irrigation projects is of major importance to the agriculture of the West. Supplemental water supplies may be provided by (1) construction of surface storage reservoirs, (2) development of ground waters or (3) more efficient use of the present supply. Of these three methods the third is by far the most effective and the least expensive and it involves the entire irrigated area.

Need for Efficient Irrigation Methods

The 1940 census reports an average annual diversion into irrigation canals in the Western States of 4.8 acre feet per acre, and an average delivery to the farm of 2.8 acre feet per acre. This represents an annual loss in conveyance of 40,000,000 acre feet of water, or 42 percent of that diverted. In addition to the conveyance losses, efficient studies made in Utah show that the losses on farms due to improper methods of application and careless irrigation practices represent another 35 percent of total diversions. Therefore, on a large portion of the approximately 21 million irrigated acres the present water use is only about 25 percent efficient. Increasing this efficiency from 25 to 50 percent would make available for use approximately 25 million acre feet of water without the construction of a single major storage reservoir, diversion dam, or main canal.

Development of Efficient Irrigation Methods

The major activity of the Service under this project is to develop ways of increasing the engineering efficiency of irrigation. Studies are being specifically directed at:

1. Determining the source (surface streams and ground waters) and seasonal distribution of the water supplies, and organizing cropping plans to conform with this distribution.
2. Securing advance knowledge of potential seasonal water supply through snow surveys and streamflow forecasts.
3. Reducing conveyance losses by lining canals and laterals.
4. Proper land preparation for irrigation.
5. Rehabilitation of farm distribution systems for better control of streamflow.
6. Improving methods of water application.
7. Determining water storage capacity of soil and limiting water applications to this capacity.
8. Determining optimum soil and water relations.
9. Providing for adequate drainage.
10. Developing proper leaching practices for removal of alkali.
11. Developing a type of irrigation enterprise that can effectively distribute the available water to its stockholders.
12. Consolidating small irrigation companies.

Examples of Irrigation Efficiency Studies

Some examples of the type of studies being conducted and the progress which has been made during the past fiscal year are covered in the following paragraphs.

During the past year a study was made and a report completed entitled, "Irrigation Practices and Consumptive Use of Water in the Salinas Valley." This study included a determination of the evapo-transpiration from native vegetation as well as a determination of the amounts of water required to irrigate land in the area growing such crops as alfalfa, lettuce, beans, sugar beets, artichokes, guayule, orchards, and grains. This study is typical of those which must be made of the sources and utilization of the water supply of an area as a basis for an effective conservation program.

A study designed to assemble and analyze all available data on irrigation requirements for California crops as a basis for field operations

was completed during the fiscal year 1946 and has been published as Bulletin 51, Division of Water Resources, California Department of Public Works. In this bulletin are assembled all available data on irrigation requirements and consumptive use of water for various crops in California as determined by the U. S. Department of Agriculture, the California Division of Water Resources, and the California Agricultural Experiment Station.

In order to obtain fair distribution and efficient use of water, it is necessary to measure its application. The Parshall flume measuring device, developed in cooperation with the Colorado Agricultural Experiment Station, continues to be the most popular water measuring device for farm use. The demand for this device has been so great that it was determined advisable to design a simple portable concrete form for the use of farmers and irrigation companies wishing to install many of these devices. Such a form has been designed and constructed and is now undergoing field tests.

Another device of great importance to irrigation has been developed at Fort Collins, Colorado. This device, known as the "Sand Trap", is used to remove from canals and laterals the sand and gravel carried along the bed of the stream. The menace of sand and gravel deposits on the bed and inside banks of irrigation channels constitutes a definite major expense in the maintenance of irrigation systems. In the Arkansas River Valley, Southern Colorado, the Colorado canal with a normal carrying capacity of 800 second-feet per day had its capacity reduced more than 100 second-feet by sand and gravel deposits. This represented a water loss to the farmer valued at \$400 per day and jeopardized the entire crop served by the canal. The sand trap has been found to be very effective in removing sand and gravel from irrigation canals.

Drainage research is being continued in the Imperial Valley, California, where the results of five years of basic research are now being taken to the field to check the laboratory findings against field practice. Definite conclusions have been reached relative to the spacing and depth of drains and with respect to effect of irrigation applications on drainage. These conclusions are now being checked by making field trials.

In cooperation with the Utah Agricultural Experiment Station, a study of the effectiveness of drainage enterprises is being conducted. This study includes an analysis of the internal organization of the drainage enterprise and the physical condition and effectiveness of the drainage system. During 1946, 37 drainage districts in nine counties, involving 205,000 acres, have been studied and the data analyzed.

Studies are being conducted in cooperation with the Utah Agricultural Experiment Station in an outdoor irrigation research laboratory at Logan, Utah, on lining irrigation canals and ditches. The flow of water through various types of linings is being measured and their resistance to erosion and weathering is being determined. Preliminary results indicate that canals can be lined with native clays and bentonite at

a sufficiently low cost to justify their use in view of the great reduction in the amount of water lost by seepage.

At the Cooperative Laboratory, California Institute of Technology, experimental studies are being made to revise existing sediment-transportation formulas so that they will be applicable to conditions of the high sediment-transportation rates found in many natural streams that the Service is called upon to control. Field studies of the behaviour of density currents in Shaver Lake, California, have shown that proper venting of sediment-laden density currents provides a promising method of reducing rates of reservoir sedimentation. An investigation of the sedimentation problem of Pacheco Creek in San Benito County, California, disclosed that obstructions in a stream can be of major importance in their effect upon the sediment-transporting capacity. Studies of this type are being continued, and the results will be used to guide development of control measures on streams where conditions are similar. A report entitled "Sediment Movement in Wildwood Canyon" was distributed to Service technicians to illustrate the right approach to sediment-control problems in mountain streams.

The water supply forecasts for 1946 resulting from analysis of snow survey data gathered during the year showed a potential water shortage of serious proportions over the southwestern part of the United States and the south half of the Rocky Mountain area. This forecast which turned out to be an accurate prediction enabled the water users in those short areas to limit their late crops and to institute water conservation programs early in the season. In addition to the important service which is being rendered currently to the irrigation farmers through these annual snow surveys and streamflow forecasts, research is being continued to refine and increase the accuracy and coverage of the irrigation water supply forecasts.

Water regulation investigations to conserve the soil and reduce fire hazards in the Everglades region of Florida: The work being conducted under this project includes the development and improvement of water management facilities and farming practices necessary to conserve the soil and water resources of the Everglades; development of fire prevention practices; making of topographic and land-use capability surveys; and studies of run-off, seepage, and evaporation.

Means of Controlling Soil Subsidence

A special conservation problem exists in the Everglades region of Florida. This 2,700,000 acre area of low-lying peat and muck land was drained over 30 years ago with apparently little or no thought having been given to any factor except water disposal. The lowered water table has resulted in destruction of the organic soils through oxidation and by fires. In many places, the cultivated muck land and much of the virgin peat land have subsided as much as six feet since they were drained. Means of water regulation must be developed and improved to make possible the conservation of the remaining valuable agricultural lands and prevent further destructive fires. Areas not suitable for cultivation should also be determined and delineated.

Land-Use Planning for Everglades Area

Sufficient progress has been made in the development of a long-time plan for the utilization and conservation of the soils of the Everglades to justify the publication of an interim report. The cultivated acreage in the Everglades is expanding rapidly, and it is important that findings of this investigation be made public to guide farmers and other landowners in developing good land and avoiding areas unsuited for agriculture. A draft of the manuscript has been completed, which within the fiscal year 1947 will be edited and submitted to the Florida Agricultural Experiment Station for printing.

Making Topographic Surveys

Much difficulty has been encountered in making the topographic survey in some of the inaccessible parts of the Everglades where very special equipment is necessary to transport the surveyors. Unavoidable delays in getting repair parts after breakdowns of that equipment have been added to the natural difficulties of the work. Approximately 10 percent of the survey remains to be done. It will be necessary, therefore, to maintain one survey party throughout the fiscal year 1947. Completion of the survey and the resulting decrease in the amount of equipment to be maintained permits the reduction of \$13,200 to be made in this item in 1948.

Means of Disposing of Excess Water

Investigations to determine whether evaporation, transpiration, and percolation on unused land can be utilized to dispose of excess water from agricultural lands are being continued. Reliable conclusions have not been reached. The growing season 1945-46 was comparatively dry and little pumping for drainage was required.

Tests to determine the feasibility of pumping for drainage in areas of organic soils underlain with very permeable rock, the Miami oolite, also must be repeated in subsequent seasons to reach a dependable conclusion. Lack of sufficient rainfall to flood the test area detracted from the value of the data obtained in the past year.

One important factor in designing drainage and irrigation works for Everglades conditions is the water slope necessary in field ditches and outlet ditches. Investigations are under way to determine such slopes at various stages in the channels. The results obtained will indicate the length of field ditches that can safely be recommended in the flat muckland areas.

Testing Types of Pumps

Investigations are being made to determine the capacity of the various types of low-lift pumps in general use in the area for drainage and irrigation. Most of the pumps are made locally and have never been tested. Accurate performance data are necessary if farm pumping installations are to be efficient and economical.

Control of Salt Water Intrusion

In the cultivated marl and rockland areas of the southern Everglades, considerable anxiety is being caused by salt water intrusion from the ocean. Studies are under way to determine the extent of such intrusion and to develop methods of water control that will prevent injurious concentration of chlorides in the soil. Irrigation requirements for the marl lands and rocklands are also being investigated.

Work is Cooperative

Dade County, Florida, has levied an ad valorem tax for water-control improvements and is constructing such improvements in accordance with recommendations developed under this project.

It is required that expenditures under this project "be limited to a sum not in excess of funds made available for such work by the State of Florida, or a political sub-division thereof." The following is a statement of the actual and anticipated contributions by such agencies compared with actual and proposed Federal obligations under this project:

	: 1946	: 1947	: 1948
	: Actual	: Estimate	: Estimate
Dade County Water Conservation Project	: \$56,033	: \$56,000	: \$56,000
Dade County Fire Control Unit	: 25,110	: 25,000	: 25,000
Everglades Fire Control District	: 62,134	: 62,000	: 62,000
Everglades Experiment Station	: 18,000	: 18,000	: 18,000
	:	:	:
Total Expenditures by State Agencies	: \$161,277	: \$161,000	: \$161,000
	:	:	:
Total Federal Obligations	: 56,369	: 70,900	: 57,700
	:	:	:

(b) Soil Conservation Operations

Objective: The work is concerned with providing direct technical and other assistance to farmers and ranchers in the preparation of conservation farming plans and the application of soil and water conservation practices. Adoption of these practices and sound land use will assure preservation of the country's soil resources, efficient use of available water supplies, increased and sustained per-acre crop yields, and protection of rivers, harbors, reservoirs, and highways from siltation and flood damage.

The Problem and Its Significance: Misuse of land is not only wasteful but a threat to the permanency of agriculture. Occasionally the consequence may be only failure to obtain maximum returns for efforts and resources expended. Generally, however, the result is the irreplaceable loss of valuable soil and water resources and eventual inheritance of the many physical, economic, and social problems that accompany deterioration of farm and ranch lands by erosion.

Erosion has made serious inroads in the United States. Approximately 50 million acres of crop land have been virtually ruined for further cultivation. Another 50 million acres have been damaged in varying degrees from moderately to severely. More than half of the topsoil is already gone from 100 million additional acres, and the process is under way on a third 100 million acres. There are only about 75 million acres of farm land in the country which are not subject to erosion, including land now in crops, pasture and woodland. Even these lands must be carefully managed if they are to remain permanently productive. Erosion is still proceeding at a rate in excess of the constructive work being done to arrest it. It is estimated that soil is being washed from the farm and ranch lands of the country at the rate of 3 billion tons per year. Costs to the United States in wasted soil, abandonment of worn out farms, railroad and highway damage, reduced reservoir capacity, flood damage, and related losses amount to almost 4 billion dollars annually.

Required protection against misuse, soil depletion, and water loss can be given our farm and ranch lands through conservation farming. This means using land in accordance with its capabilities, i.e., for the crops it is best suited to produce, and treating each acre with necessary soil and water conservation practices that have been adapted to meet its individual needs. The treatment planned must, of course, also fit the needs, adaptability and preference of the farmer and should provide as adequate protection as possible for adjoining lands. Farmers and ranchers need the help of skilled technicians to get a properly adapted conservation farming program under way on their lands. Their services are necessary to secure and analyze the basic data needed to make the conservation farming plan that each farm or ranch should have, to collaborate with the farmer or rancher in preparing it, and to give him technical guidance in installing and maintaining the conservation practices determined necessary to protect his land.

Effecting widespread application of the conservation farming system is one of the most urgent and immense tasks facing the country today. Nationwide farm and ranch coverage with the conservation program is necessary to keep the agricultural plant of the United States in a permanently healthful condition.

The advantages of conservation farming are many. For example, it not only protects the soil, but it increases the average yields per acre as well. It also provides for crop diversification that is so urgently needed in many sections of the country. Furthermore, records show that it reduces wear and tear on equipment, saves fuel, seed, and fertilizer and reduces labor costs. In short, conservation farming pays tangible dividends!

The General Plan of Work: For budget purposes this appropriation item is divided into two projects, (1) direct assistance to farmers and ranchers in preparing conservation farming plans and in establishing adapted soil and water conservation practices on their lands, and (2) operation of nurseries for the furnishing of planting stock and seed needed for erosion control purposes. The first project is further subdivided to separate the work done within conservation districts and that carried on outside the boundaries of these districts in cooperation with other Federal and State agencies.

The principal activity of the Service is, of course, that of rendering assistance to farmers and ranchers in conservation districts. These districts with which the Service cooperates are local units of government organized under State laws, are under the leadership of a State committee, and are responsible to the State legislatures. They are founded upon the sound principle of local initiative, local direction, and local control, and are formed only in response to the petition and favorable referendum vote of the land owners and operators who are carrying on agricultural operations within their proposed boundaries. In this way, the necessary basis has been laid for maximum exercise of initiative and responsibility by the farmers and ranchers themselves.

Soil and water conservation and sound land use are the common objectives of the conservation districts and the Soil Conservation Service. There is no question that these objectives can be realized most effectively and economically by cooperative effort with the districts. The Service is making available to districts the services of trained conservationists who give technical guidance to farmers and ranchers in the preparation of conservation farming plans and the establishment and maintenance of conservation practices on their lands. Other assistance provided consists of the grant of conservation planting materials (trees, shrubs, vines, and grass seeds) and the loan or grant of available field equipment. The amount and type of assistance furnished to any district is governed by the district's needs and ability to make the most effective use of it on the maximum number of farms and ranches and, of course, by availability of funds. The district governing bodies determine the types of conservation work on which the assistance the

Soil Conservation Service can make available will be used, and the priority of the farms and ranches on which work will be done.

In planning for conservation farming the capability or suitability of the land for a specified use must first be determined. This requires the making of a conservation survey or physical inventory of the land to secure data on the physical factors (kind of soil, degree of slope, character and extent of erosion, and climate) which influence land use. After this survey has been completed the capabilities and needs of the land of each individual farm and ranch are determined. Then skilled and experienced farm planning technicians assist farmers and ranchers in groups, and later individually, in developing conservation farming plans. These plans are based on the information developed from the conservation survey and on the farmer's resources, his choice of crops, his type of farming, and many other economic, social, and personal factors. The combination of soil and water conservation practices chosen allows for the best possible use of the farmer's land, water supply, labor, and equipment, and his ability as a manager. The farming plan charts for a specific period of time, usually from 3 to 5 years, the type of use, cultivation, and plantings that are required to conserve soil and water resources. For example, determination is made as to the need for such practices as strip-cropping, contouring, terracing, sodded waterways, pasture improvement, crop rotation, mulching, land leveling, and water spreading, and the proper location for installation of these practices. Crops and forage needed to meet feed requirements for present or contemplated livestock are also considered. These two broad types of information exemplify the physical and managerial factors which the farm planner and the farmer consider in developing the farm plan. After development of the conservation plan, assistance is furnished the farmer in execution of that plan, and may include furnishing available equipment and planting stock.

In those areas of the West where snow furnishes an important part of the water used for irrigation purposes, watershed snow surveys are conducted in cooperation with Federal, State, local, and private organizations to secure data on which dependable estimates of the probable run-off from the snow pack can be made. Forecasts of irrigation water supplies are then published and broadcast. Farmers rely on these forecasts to determinate what types of crops to plant and whether the potential water supply will permit expansion of acreage to be cultivated. The forecasts are also of great importance to bankers, shippers, power companies or organizations, water supply systems, and flood control agencies.

The revegetation of eroded areas to which conservation measures are applied in conservation districts is dependent to a considerable extent upon the maintenance of an adequate supply of suitable planting materials and upon the development of new propagation and cultural practices. The Service maintains thirty nursery units to produce or purchase plants and seeds, collect them from wild habitats for propagation, conduct observational studies to determine the best types of plants for specific planting site conditions, and search

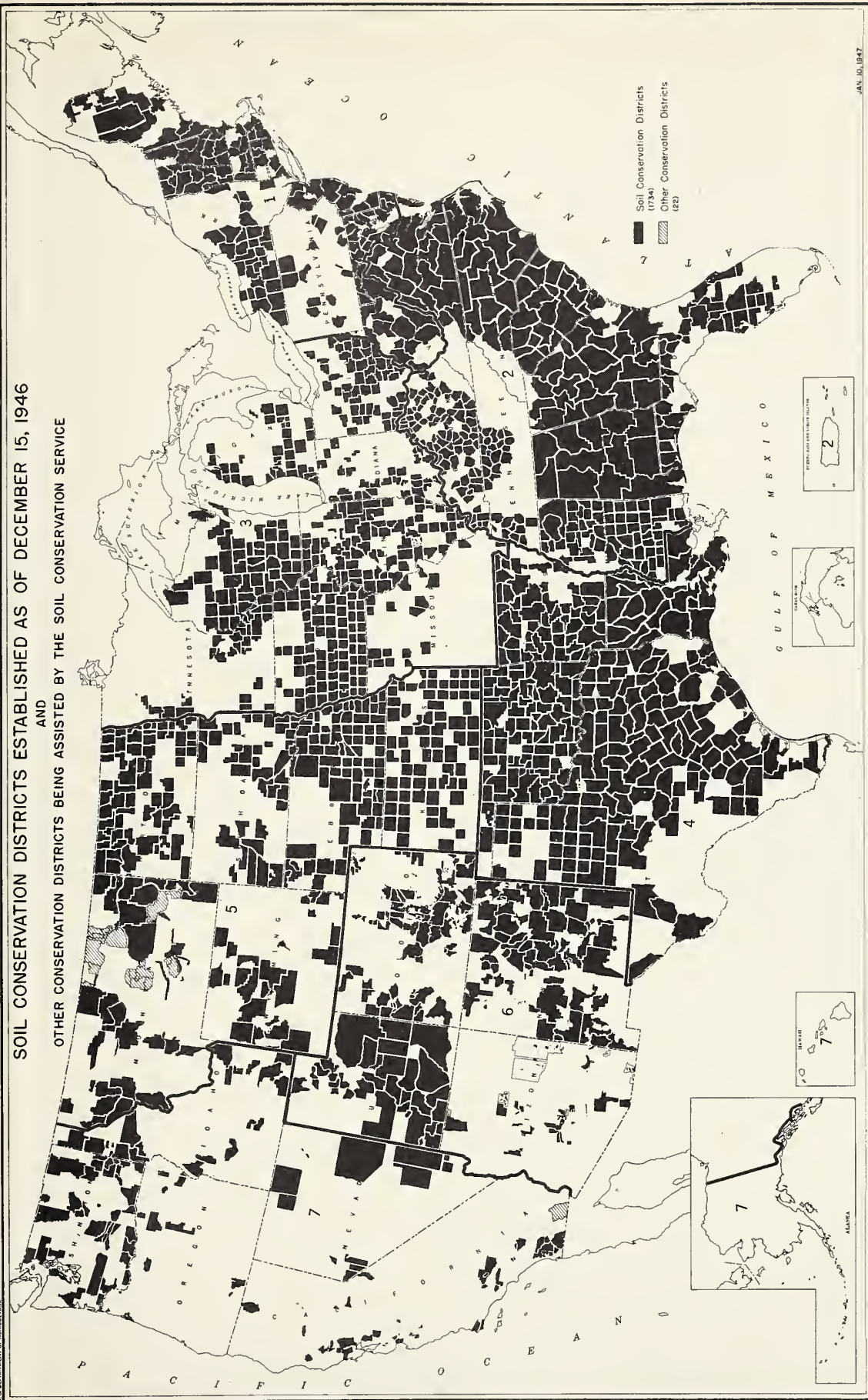
for new strains of plants and grasses which are exceptionally well suited for erosion control purposes.

Examples of Progress and Current Program: The progress being made toward attaining the objective under this appropriation and some of the recent accomplishments are presented under the applicable projects.

Soil and water conservation operations in conservation districts: Provision is made under this project for assisting conservation districts to develop and carry out locally-adapted programs of soil and water conservation and proper land-use by furnishing assistance to farmers and ranchers within the districts in the preparation and application of conservation farming plans. This assistance includes the services of such skilled technicians as soil conservationists, soil scientists, engineers, agronomists, foresters, and conservation and engineering aides, and the loan of special equipment of a kind which is beyond the purchase ability of the individual farmer or for other reasons not readily available to owners and operators of farmlands within the districts. (Some conservation planting materials are also furnished. For details see discussion of nursery project).

All forty-eight States and the island possession of Puerto Rico have now adopted soil conservation district laws. The rate of district organization in 1946 was considerably greater than the estimates made at the beginning of the fiscal year. It was anticipated that 1,536 conservation districts would be organized by June 15, 1946, but actually 1,638 were organized. In addition, approximately 20 million acres were added to existing districts during the year. As of December 15, 1946, 1,756 districts had been organized (See attached map).

SOIL CONSERVATION DISTRICTS ESTABLISHED AS OF DECEMBER 15, 1946
AND
OTHER CONSERVATION DISTRICTS BEING ASSISTED BY THE SOIL CONSERVATION SERVICE



The various tabulations that follow show the number of conservation districts organized, funds available for assistance to districts, and other pertinent data regarding districts and accomplishments:

(1) Conservation Districts Organized as of December 15, 1946

Kind of District	: State	: Dist's. : Approximate : Operating :	Farms
	: State	: Organ. : area : Units :	No.
	: 46 :	: No. : Acres : No. :	No.
Soil Conservation Districts	: States:	1,708:922,964,456:3,552,477:	4,136,989
Wind Erosion Districts	: Texas :	10: 6,191,760:	5,391: 5,391
Sub-Districts	: N. H. :	10: 5,775,360:	14,357: 16,347
Work Areas (called districts)	: Conn. :	6: 2,295,680:	16,600: 18,372
Grass Conservation Districts	: Mont. :	21: 7,705,322:	1,946: 6,578
Imperial Irrigation District	: Calif.:	1: 830,000:	4,536: 4,536
Total Conservation Districts	:	1,756:945,812,578:3,595,307:	4,188,213

The number of conservation districts indicated as organized is based upon certificates of organization being issued by the respective States. This is the time at which the Soil Conservation Service is generally requested, either by the governing body or by farmers who are assisting in organizing this body, to assist the district in making reconnaissance surveys and in developing work plans and programs before Memoranda of Understanding with the Department and supplemental agreements with the Soil Conservation Service are signed. After that time, of course, other assistance is furnished to farmers and ranchers through the district.

(2) Comparative Statement of Conservation Districts Organized Annually

Date or Fiscal Year	: Number of Conservation Districts Organized	: Number of Conservation Districts Organized on a Year Basis	: "District-Years of Assistance" for which Funds Provided
June 15, 1945	: 1,346	:	:
1946	:	: 1,461	: 1,355
June 15, 1946	: 1,638	:	:
1947	:	: 1,757 (Est.)	: 1,605
June 15, 1947	: 1,875 (Est.)	:	:
	:	:	:

(3) Funds Made Available for Assistance to Conservation Districts

Fiscal Year	: Funds Appropriated	: "District-Years of Assistance" for which Funds Provided	: Average Amount Funds Provided per District-Year
1946	: \$30,920,599	: 1,355	: \$22,820
1947	: 41,105,600	: 1,605	: 25,611

The increase in 1947 over 1946 of \$2,791 per district-year is composed of the following actual and anticipated appropriations:

- A decrease per district-year:

(a) 1946 - \$30,920,599 ÷ 1,355 = \$22,820

(b) 1947 - \$34,772,200 ("41,105,600 less \$6,333,400 shown under 2 and 3 below" ÷ 1,605 = 21,665 - \$1,155
 - \$2,500,000 for equipment for loan and grant to districts ÷ 1,605 = +1,558
 - \$3,833,400 additional costs due to the Federal Employees Pay Act of 1946 ÷ 1,605 = +2,388
- Net Increase 2,791

(4) Number of Farms and Farm Acreage in Conservation Districts

Date	: Number Districts: : Organized	: Number Farms: : Included	: Approximate : Acres in Farms
<u>Actual</u>	:	:	:
June 15, 1945	: 1,346	: 3,410,829	: 485,368,298
Average per district:	:	: 2,534	: 360,600
June 15, 1946	: 1,638	: 3,961,472	: 572,373,306
Average per district:	:	: 2,418	: 349,434
<u>Estimated</u>	:	:	:
June 15, 1947	: 1,875	: 4,500,000	: 655,000,000

(5) Planning and Treatment Accomplishments in Conservation Districts

Item	: Fiscal Year: : 1945 (Actual)	: Fiscal Year : : 1946 (Actual)	: Cumulative : : 6/30/46	: Fiscal Year : 1947 (Est.)
Individual farm and ranch plans	: 60,100	: 102,293	: 364,479	: 122,000
Acres planned	: 19,076,378	: 25,369,044	: 98,479,774	: 30,500,000
Acres treated	: 12,241,604	: 15,816,312	: 47,604,396	: 17,000,000

(6) Cost of Farm Planning and Application of Conservation Practices

Item	: 1945	: 1946
Cost per acre for plan- ning	: \$0.44	: \$0.42
Cost per acre for treat- ment	: 1.20	: 1.03
Total	: 1.64	: 1.45

The per acre cost to the individual farmer averages two to three times the cost to the Service. The farmer's expenses include the cost of labor, of all except special equipment, of material, and of most of the planting stock. He also pays operation and replacement costs on the heavy earth-moving or other special equipment made available to him through the conservation district.

(7) Conservation Surveys Completed

Fiscal Year	:	Fiscal Year
1945	:	1946
23,522,628 Acres	:	27,624,230 Acres

As a means of securing a more rapid and general adoption of conservation farming methods by as many farmers and ranchers as possible, every effort is being made to place greater responsibility for leadership in conservation upon selected district cooperators. These local group leaders are being intensively trained in the methods of developing, applying, and maintaining farm and ranch conservation plans in accordance with land-use capabilities so that they in turn can assist others with this work. Good progress is being made with this plan of speeding up the conservation program.

In 1945 the Service completed a State summarization of its National Conservation Needs Analysis. Summarization of the data on a basic land resource area was completed during the 1946 fiscal year. This comprehensive and far-reaching analysis indicates, on the basis of the capabilities of the land, the land-use adjustments that are needed between cropland, grazing land, woodland, and other land uses. The proven conservation practices have been calculated for each acre of farmland and the needed technical assistance, equipment, labor, and materials to assure the proper installation of those practices, have been determined, irrespective of source. These calculations were based on the best information available from soil conservation surveys made by Service technicians. As additional surveys are made within each basic land resource area, these calculations will be refined and improved.

Technical studies were made in a number of soil conservation districts in 1946 to determine the rate and seriousness of soil decline. These studies revealed that more than one-half of the cultivated land in these districts was in critical condition and required immediate major adjustments in the use of the land, and very intensive soil conservation treatment to prevent further damage and to permanently maintain the soil resources. It was found that such severe damage was taking place in these particular areas, largely because of accelerated soil erosion, that the land would be unfit for profitable crop production within perhaps no more than ten years, unless promptly and properly protected.

A more comprehensive study is now being made of soil decline in the United States as a whole. This study is based on the results of conservation research that provide rates of soil and water loss from wind and water erosion, siltation, sedimentation, salinity, high water table, and other causes. These rates of soil deterioration, when applied to the present condition of the inherent physical properties of the land which affect its potential productive power (data obtained from soil conservation surveys), provide a basis for determining the average annual soil deterioration. Soil decline, thus, is being based on the length of

time the productive power of an area is capable of producing at its present rate under its present management. This appraisal of the soil and water conservation job will prove valuable in determining where resources of the Service should be allocated. It also promises to serve as a sound basis for determining the public responsibility in the conservation of the soil and water resources of the country.

The sum of \$2,500,000 was specifically earmarked in the 1947 appropriation for soil conservation operations, for the purchase of surplus Government-owned equipment for loan and grant to conservation districts. Heavy earth-moving and other special types of equipment required to establish certain planned and needed conservation practices on farms and ranches, are urgently needed by the districts. As of December 31, 1946, the following equipment had been acquired:

<u>Number of Units</u>	<u>Type of Equipment</u>
68	Crawler tractors
20	Wheel tractors
12	Motor graders
13	Towed graders
19	Crawler cranes
7	Truck cranes
3	Carryall scrapers
10	Bulldozers
2	Soil pulverizers
3	Power control units
2	Rooters
5	Sheepfoot rollers

<u>Item</u>	<u>Cost</u>
164 Units of Equipment	\$390,000
Transportation and handling charges	110,000
Repairs to equipment purchased	<u>100,000</u>
Total	600,000

Negotiations have been practically completed for the purchase of an additional 91 crawler tractors and 40 scrapers from the U. S. Marine Corps, Barstow, California, at a total cost (including transportation and repairs) of approximately \$600,000. If this transaction is completed there will remain available in the 1947 fiscal year for the purchase of surplus equipment the sum of \$1,300,000. Efforts will be continued to secure with this balance, equipment needed in districts to speed up conservation treatment of farm and ranch lands.

Soil and water conservation operations in cooperation with other Federal and State agencies: Under this project limited assistance in planning and applying conservation farming practices is given to farmers and ranchers in areas outside conservation districts. The work is conducted in close cooperation with various other Federal and State agencies that

have an interest and responsibility in furthering programs of soil and water conservation and sound land use. This cooperative effort is a contribution to the development of a better understanding locally of erosion and land-use problems and is creating interest and activity necessary to secure more general adoption by farmers and ranchers of conservation farming methods.

Soil Conservationists are cooperatively employed by the Extension Service and the Soil Conservation Service in 40 States and Puerto Rico. These specialists develop the educational material on soil and water conservation and work very closely with other State Extension Service personnel, county agents, agricultural teachers, supervisors of soil conservation districts, farm leaders, and representatives of other agencies in urging organized local action on conservation programs and in disseminating information on conservation farming methods. The Extension Soil Conservationists and other state and county extension workers devoted 76,466 days to soil conservation educational work in 2,864 counties during the calendar year 1945 and were assisted in this work in 39,600 communities by 67,206 farm leaders.

During the past year the Soil Conservation Service also cooperated with the Extension Service in furthering 4-H Club work in soil and water conservation. State and national contests were held in which 43 states participated. There were 86,200 boys and girls who received definite training in soil and water conservation and 7,319 boys and girls who were enrolled in special soil and water conservation projects, with 108,867 acres of land involved.

To date, technicians of the Service have developed conservation farming plans for 7,184 farms and ranches which were selected for demonstrations by County Extension Agents with the cooperation of Soil Conservation Service technicians. The conservation work established on these farms and ranches has been very effective in stimulating interest and organized effort in soil and water conservation.

During the 1946 fiscal year, under the technical guidance of irrigation research specialists, 1910 snow surveys were made to secure data on which to base forecasts of available irrigation water supplies. Over 15,000 copies of the 31 reports issued on the results of these surveys, were distributed. There were also 70 press releases prepared. Twenty new snow survey courses were established. One new shelter cabin was constructed and 76 shelter cabins were stocked, either by the Service or the cooperating agencies, with emergency supplies. Ten new agencies were added to the list of cooperators which now totals 180. (See "Soil Conservation Research" for information on the research phases of snow surveys).

Operation of conservation nurseries for the furnishing of plants for use in soil and water conservation operations: The work under this project includes the production, purchase, or collection of adapted and improved varieties of planting stock and seed for grant to farmers through conservation districts for erosion control planting purposes.

During the fiscal year 1946 the Soil Conservation Service furnished to cooperating conservation districts considerably less trees than in 1945 but greatly increased its contribution of grass and legume seed. This was in accordance with plans and efforts to increase food and fiber production, conserve farm labor, and to use each acre of land according to its capabilities. Only incentive quantities of these materials were granted to individual farmers.

Approximate Amounts of Seed and Planting Stock
Furnished to Conservation Districts

Item	:	1945	:	1946
Trees, shrubs, and other plants	:	50,000,000	:	24,000,000
Grass and legume seed (lbs.)	:	1,000,000	:	2,000,000

Tree planting during the war was greatly retarded due to a dearth of farm labor and the necessity of devoting all efforts possible to food production. As a consequence tree production on Soil Conservation Service nurseries was reduced to a minimum. However, farm planning continued at an increased pace and conservation districts are now confronted with a tree planting program calling for unprecedented quantities of planting stock. Tree planting requirements in organized conservation districts in the fiscal year 1947 are estimated at 250 million trees. With farm planning and district organization on the increase the need for planting stock will continue to increase greatly. The Soil Conservation Service plans to produce and distribute through conservation districts only incentive quantities of trees, shrubs, etc., until such time as the major job can be taken over by State nurseries. In order to stimulate the latter, arrangements have been made by the Service to buy a portion of its tree needs from State nurseries. In addition, work will be conducted in close cooperation with the State foresters so that they will be kept currently informed on the tree needs of cooperating conservation districts. A number of districts have established cooperative nurseries for the production of tree planting stock and Kudza crowns. The Service will encourage and assist in this activity. As rapidly as the States and other agencies can meet the district needs for planting stock the Soil Conservation Service will discontinue production and distribution.

The emphasis placed upon improving pastures and range lands during the war will be continued with increased vigor. In order to meet emergency war needs much of our cultivated land has been over-worked. Erosion has increased and continuous cropping has depleted soil fertility. Rotations must be reestablished and a substantial portion of these crop lands must be returned to permanent grass and legume cover. There is a country wide shortage of improved and locally-adapted varieties of

grass and legume seed to meet this need. The nursery program will continue to stress seed production, improved methods of planting, harvesting and processing. Conservation districts, in many localities, have established seed-increase plantings for the production of improved grasses and legumes for the use of farmers in the district. Assistance is being given these districts in growing, harvesting, and processing the seed raised.

The Soil Conservation Service is working cooperatively with Federal research agencies with the State Experiment Stations on forage plant improvement and testing work. Field plantings of these improved plant materials are observed by Service technicians to determine their value for conservation and economic use under wide variations of soil and climate. Foundation seed of the superior varieties is increased by the soil conservation nurseries and in conservation districts in accordance with seed production standards established by State seed certifying agencies and Federal research bureaus. Excellent results have been obtained and many improved varieties of planting materials have been provided in the "Soil Conservation Operations" program.

(c) Land Utilization and Retirement of Submarginal Land

Objective: The work under this appropriation item is concerned with the development and management of submarginal lands which were acquired under authority of Title III of the Bankhead-Jones Farm Tenant Act. The purpose is to correct use of the land, to conserve soil and water resources; to provide opportunities for farm families residing adjacent to the project areas to obtain the essentials of life and health, and to improve the general economy of the rural communities in which this government-owned land is located.

The Problem and Its Significance: During the period 1938 to 1942, inclusive, the Federal Government acquired considerable acreage that had been in cultivation or subject thereto but which was unsuited for such use because of location, natural infertility, loss of productivity through misuse, or other physical factors. Continuance in cultivation of these lands would have resulted in further depletion of the soil, farm poverty, tax delinquency, and excessive costs of such local services as maintenance of schools and roads. Solution of the human, land, and governmental problems in the blighted areas affected was possible only by changing occupancy and land use.

The submarginal land areas that were acquired are being developed for the purposes for which they are best suited. Much of the land, after being developed, can be put to beneficial use in conjunction with adjacent private lands. The use, under permit, of project land resources enables local farmers and ranchers to shift to a less intensive use of their own lands and furnishes them a basis for making a satisfactory living. Much of the work under this program is necessarily demonstrational in character. It is intended that it will stimulate local interest and action in correcting maladjustments in the use of land and in establishing soil and water conservation practices adapted to land not primarily suited for cultivation.

General Plan: Plans for the development, improvement, and maintenance of land and facilities which the Government acquired under the Land Utilization program are prepared and carried out as rapidly as available funds and physical factors will permit. This work consists of applying erosion control measures; establishing proper vegetative cover on abandoned crop land; seeding and otherwise improving land suitable for pastures and other grazing use; developing wells and springs; constructing stock watering facilities and fences; eliminating useless buildings and fences; tree planting; constructing roads, fire breaks and trails, lookout towers, and telephone lines; constructing some buildings and occasionally recreational facilities; and maintaining facilities in good repair.

The lands and facilities on the Land Utilization projects are made available to local farmers and ranchers at equitable rates and under specific use conditions. Use permits are granted for grazing, cutting hay, cropping, timber harvesting, and other purposes. Most recreational facilities are handled through concessionaires' contracts.

Other activities on the projects include patrolling and firefighting, and dissemination to users of the land of information on soil and water conservation practices and proper land-use.

Examples of Progress and Current Program: Recent accomplishments under this appropriation are cited to show progress being made.

The Soil Conservation Service at the present time has responsibility for administering 82 project areas under the provisions of Title III of the Bankhead-Jones Farm Tenant Act. These projects include 7,141,000 acres of Government-owned land located in 34 States. Approximately 6,500,000 acres of this land are best suited for grazing purposes; around 600,000 acres are adapted to forestry development and management; and the remainder is suitable for cropping, wildlife, recreation, and other miscellaneous purposes. About 1,150,000 acres of land determined to be suitable for grazing required establishment of special soil and water conservation practices and satisfactory vegetative cover in order to place them in productive use consistent with the capabilities of the land. Completion of the development work, adequate maintenance, and proper management will permit maximum utilization of the land by local farmers and ranchers and rural communities, will improve the agricultural economy of the areas affected, and will provide increased cash returns on the Government's investment.

Nearly 6 1/4 million acres of project land were used for grazing purposes in the calendar year 1945 and furnished 1,664,373 animal unit months of grazing to stock owned by 6,517 local farmers and ranchers. This is an increase of 111,000 annual unit months over the previous year. Over 33 million board feet of timber products were harvested during the year from project woodlands by 999 individuals or concerns under permits or sales contracts. The recreational facilities on the projects were utilized by local people to the extent of 1,100,000 visits.

Some of the more important items of development work completed during the year were the following:

<u>Practices</u>	<u>Amount</u>
1. Acres seeded to grasses and legumes	76,046
2. Acres fertilized	2,172
3. Acres limed for pasture purposes	1,169
4. Miles of new fence constructed	302
5. Stock water dams constructed	137
6. Other sources of stock water completed	128
7. Trees planted	816,000
8. Miles of fire breaks	153
9. Miles of administrative roads and trails constructed	40

As of the beginning of the current fiscal year there remained for completion the following more important items of development work:

<u>Practices</u>	<u>Amount</u>
LAND IMPROVEMENT:	
Acres of seed bed preparation	173,580
Acres of liming	42,708
Tons of liming	74,807
Acres of fertilizing	58,446
Tons of fertilizing	11,902
Acres of seeding and planting grass	424,368
Acres of water spreading	26,280
Acres of mowing and brushing	89,028
FENCING:	
Miles of new-permanent	2,680
Miles of old-repaired	1,507
Miles of removed	1,848
STOCK WATER FACILITIES:	
Number of dams (a) new	279
(b) repaired	38
Number of springs (a) new	135
(b) cleaned	72
Number of dugouts	221
Number of wells (a) new-shallow	97
(b) new-deep	226
(c) repaired	272
Number of windmills (a) new	315
(b) repaired	89
Number of tanks installed	664
WOODY PLANTINGS:	
Acres of tree plantings	78,751
Number of trees	81,280,000
FIRE CONTROL:	
Miles of guards and breaks	1,076

<u>Practices</u>	<u>Amount</u>
ROADS AND TRAILS:	
Miles of constructed	445
BUILDINGS CONSTRUCTED:	
Number of administrative and service buildings	27

The benefits derived from the land utilization program are of three general types, as follows:

1. Benefits which are and will continue to be derived by the Nation because the lands acquired are being or have been restored to their proper use which will conserve them for continued future use.
2. Benefits derived by the 6,500 local farmers and ranchers who, through the use of the lands acquired, have been enabled to place their operations on a secure and permanent basis at a satisfactory income level or more nearly so than formerly.
3. The revenue collected by the Federal Government from the use of the land acquired.

For the calendar year 1945, the income from land administered by the Soil Conservation Service amounted to \$549,120. Of this amount 25 percent, or approximately \$137,280 was paid in lieu of taxes to counties in which the lands were located. The following table shows the types of revenue and the amount received for each:

Cropping	\$15,989
Haying	15,361
Grazing	303,504
Building occupancy	4,548
Recreation	20,555
Mineral royalties	18,310
Easements	50
Forest products	157,734
Salvaged improvements	12,400
Unclassified	669
Total	549,120

Revenues from these projects are currently estimated at about \$600,000 for each of the calendar years 1946 and 1947.

General land purchases under the Land Utilization program were discontinued, for the duration of the war, at the close of the 1942 fiscal year. During 1946, however, 40 applications for the exchange of private lands for Government-owned lands were received. Twenty-seven of both the requests for exchanges received

during the year and those still on file from previous years were completed during the year. No new land purchases are contemplated in either the fiscal years 1947 or 1948.

Also included in the work authorized to be carried on under this appropriation item is the settlement of boundary-dispute claims that may develop as a result of Public Law 179, 79th Congress. This law authorized the Secretary to settle claims to certain so-called Sebastian Martin grant lands in the State of New Mexico which are now a part of the Grant Lands Land Utilization Project. Out of a possible 75 claims that may develop, it is estimated that a total of 57 claims will be received during the fiscal year 1947. Of these latter, three have already been settled and quitclaim deeds involving 54.9 acres have been executed.

(d) Water Conservation and Utilization Projects

Objective: The work is concerned with developing irrigated and irrigable land for efficient application and use of irrigation water; with providing settlement opportunities for veterans and other farm families; and with securing efficient land use and conservation of soil and water resources on the irrigation farms developed.

The Problem and Its Significance: Water storage and delivery facilities are being developed in the West under the Water Conservation and Utilization program which will make additional irrigation water available either through new supply systems or through increasing the supply of existing systems. Farm land located in the projects established must be properly developed for irrigation purposes in order to make efficient use of the irrigation water to be made available. This land development work requires a degree of technical skill not normally possessed by the average farm operator and the use of heavy-earth moving equipment of a type which is generally beyond the purchase ability of the individual farmer and not ordinarily required in his farming operation.

Because of size or ownership, some irrigable land in areas that can be developed for profitable irrigation farming, does not fit into the ultimate operating unit pattern that should be developed. Large ownerships should be subdivided into economic size farm units. In many cases tracts of land needed to complete the reorganized operating unit pattern of a project area are owned either by aged people seeking to retire or by individuals who are not interested in irrigated agriculture. In other instances, the holdings of operators already in the project area are inadequate to provide a reasonable living standard or to permit most efficient utilization of available resources. Excess lands when purchased by the Government for development and resale make possible certain needed adjustments in the project operating unit pattern and make available additional settlement opportunities.

The matter of providing settlement opportunities for needy farm families and returning veterans is important at this time as is also that of establishing adequate feed reserves for western livestock in order to supplement the carrying capacity of the range. Western irrigated agriculture can be considerably expanded and opportunities provided many families to make an adequate living if existing water resources are fully and efficiently utilized on land properly developed for irrigation. There should be, of course, reasonable assurance that prospective settlers will be qualified to operate successfully the farm units they desire to purchase; therefore, these individuals must be selected with great care.

In order to conserve valuable water resources, prevent soil leaching and erosion, increase or maintain production, and encourage efficiency in farming operations, the new farm operator should be furnished technical guidance on water application and disposal, soil management, erosion control, weed suppression, cropping, rotations, farm management, maintenance and proper use of irrigation structures and equipment, and other irrigation farming operations and problems. The furnishing of adequate guidance on these farming operations and problems by experienced technicians will prevent waste and damage and will often mean the difference between success and failure of a farming enterprise.

The General Plan of Work: Work under this appropriation is carried on cooperatively with the Bureau of Reclamation. The enabling legislation provides that the Department of Interior construct the primary water supply features such as dams, reservoirs, and principal canals. The Secretary of Agriculture is authorized, pursuant to cooperative agreement with the Secretary of the Interior, to acquire such agricultural lands as are needed to readjust land-ownership and operating unit patterns; to arrange for the development of both Government and privately-owned lands within the projects by such means as clearing, leveling, constructing farm water-distributing systems, and readjusting operating unit patterns to provide for efficient cultivation and irrigation; to arrange for settlement of lands on a sound agricultural basis; to extend guidance and advice to settlers on the projects in matters of farm practice, soil conservation, and efficient land use; and to lease or sell lands owned by the United States.

Investigations and surveys are first made by experienced agricultural economists, soil technicians, and engineers to determine the feasibility of projects which are proposed for construction. Detailed soil and topographic surveys precede actual dirt-moving work which must be carefully planned to prevent leveling of land where the soil is too shallow, to prevent removal of too much topsoil, and to lessen development costs. Land leveling and other development work is done by force account with Government-owned earth-moving equipment or by contract if it can be accomplished at comparable cost.

In those instances where additional land is needed to enable readjustment of operating units on the projects, acquisition action is taken by the Government. However, effecting adjustments by sale or exchange of land between private owners is encouraged.

As Government-owned land is developed for irrigation farming and prepared for sale, properly qualified settlers are sought to purchase the farm units. Careful selection of these individuals is made from (1) war veterans with a farming background,

(2) farm families now making only an existence on submarginal lands, and (3) farmers and ranchers located in or near the projects who need irrigated acreage to supplement their present dry farm or range holdings. Prior to sale, these farms are leased to prospective purchasers and local farmers and ranchers at equitable rental rates.

Experienced irrigation engineers, farm planners, soil specialists, and other technicians are assigned to provide technical guidance to farm operators within the project area. They demonstrate proper techniques of water and soil management, prepare conservation farming and farm management plans, indicate where improvements in farm practice and land use are necessary, and otherwise assist the farmers in solving complex farming problems.

Examples of Progress and Current Program: Recent accomplishments under this appropriation item are cited by projects to show progress being made.

General: Nineteen projects have been authorized for development by the Department of Agriculture under the Water Conservation and Utilization program. Three of these, namely, Bismarck; North Dakota, Mann Creek, Idaho, and Saco Divide, Montana, which have a total irrigable area of 18,500 acres are inactive. The following tables indicate the active projects, their location, project authorization, funds to be obligated, etc.:

Table I

Project Name	:	Headquarters Location	:	Date Project Authorized	:	Irrigable Acreage
Angostura	:	Hot Springs, So. Dak.	:	March 6, 1941	:	16,180
Balmorhea	:	Balmorhea, Texas	:	April 15, 1944	:	7,520
Bitterroot	:	Missoula, Montana	:	March 22, 1944	:	18,600
Buffalo Rapids I	:	Glendive, Montana	:	May 15, 1940	:	15,500
Buffalo Rapids II	:	Glendive, Montana	:	May 15, 1940	:	10,844
Buford-Trenton	:	Williston, No. Dak.	:	Sept. 23, 1939	:	14,800
Dodson	:	Dodson, Montana	:	March 17, 1944	:	1,185
Eden Valley	:	Rock Springs, Wyo.	:	Sept. 18, 1940	:	20,000
Intake	:	Glendive, Montana	:	Jan. 20, 1944	:	840
Mancos	:	Durango, Colorado	:	Oct. 24, 1940	:	10,000
Mirage Flats	:	Hay Springs, Neb.	:	March 30, 1940	:	11,500
Missoula	:	Missoula, Montana	:	May 10, 1944	:	900
Newton	:	Logan, Utah	:	Oct. 17, 1940	:	2,225
Post Falls	:	Coeur d'Alene, Idaho	:	Jan. 29, 1944	:	3,500
Rapid Valley	:	Rapid City, So. Dak.	:	Nov. 8, 1939	:	12,000
Scofield	:	Price, Utah	:	May 24, 1943	:	12,500

Table II

		Estimated Obligations to June 30, 1947			
Project Name	Project Authorization	"Wheeler-Case" funds	"Great-Plains" funds	"PA, CCC" & other funds	Total
Angostura	\$1,304,500*	\$319,540	--	--	\$319,540
Balmorhea	569,000	--	--	--	--
Bitterroot	752,000	306,192	--	--	306,192
Buffalo Ranches I	413,000*	--	249,000	120,000	369,000
Buffalo Ranches II	708,000	112,001	345,000	149,068	606,069
Ruford-Trenton	927,000	--	603,000	174,000	777,000
Dodson	84,000	74,140	--	--	74,140
Eden Valley	1,039,600*	--	165,000	5,061	170,061
Intake	41,000*	33,378	--	--	33,378
Mancos	473,000	285,808	--	--	285,808
Mirage Flats	687,300	365,540	170,000	36,837	572,377
Missoula	133,000	85,096	--	--	85,096
Newton	93,000	74,318	--	--	74,318
Post Falls	196,000	187,885	--	--	187,885
Rapid Valley	170,000	7,117	15,042	--	22,159
Scofield	350,000*	126,276	--	--	126,276

*Revision of project authorization to this figure pending.

Project Investigations and Surveys: The work under this project, consists of investigating and reviewing the agricultural and economic soundness of project proposals received by the Bureau of Reclamation and the Soil Conservation Service, making surveys and field investigations to determine feasibility of the work requested to be done, and preparing reports and Presidential dockets based on the findings.

Gross potentialities for land development on irrigated lands under this project are estimated to include some 1200 projects, of which some investigation work has been done on 165. Of these on which investigation work has been carried on, 19 have been approved. During the past year 16 of the 19 approved projects were re-examined in view of changed conditions resulting from the cessation of war activities. Presidential dockets, based on these re-examinations, were prepared in 13 of these projects.

Acquisition of Land: Land in the projects approved for development is purchased where it is essential to the accomplishment of the purposes of the Water Conservation and Utilization program and where needed operating unit pattern adjustments cannot be readily effected between private owners by sale or exchange of land. No land was acquired during the 1946 fiscal year due to inflated farm prices and also due to the fact that operating unit adjust-

ments were satisfactorily effected on several of the projects by private initiative. 575 acres were acquired in 1947 on the Mancos, Colorado, project. The balance available for land purchase in 1947 will be used to acquire any key tracts of land on other projects which are necessary to accomplish the planned development program. 2,000 acres are planned for purchase in 1948 on the Bitterroot, Montana, project.

Land Development: Development and improvement for irrigation farming purposes of both government-owned and privately-owned land is carried on under this project. It consists of making detailed land classifications and topographic surveys, clearing brush, trees, etc., land leveling, constructing farm ditches, drains and water control structures, and reorganizing and sub-dividing farm units. Land development work is being done both by force account and under contract. The following is a statement showing some of the major items of development work that has been done on Water Conservation and Utilization projects:

<u>Item</u>	<u>Through 6-30-45</u>	<u>Accomplished During 1946</u>	<u>Total as of 6-30-46</u>
Topographic surveys			
Acres	133,000	14,992	147,992
Land Classification			
surveys Acres	135,637	- -	135,637
Acres Land Cleared	17,470	1,446	18,916
Acres Land Leveled	32,333	10,138	42,471
Miles Farm Laterals			
Constructed	111	400	511
Number of Irrigation			
Structures Built	2,301	1,617	3,918
Miles Farm Trains			
Constructed	77	184	261

On the basis of average cost to date, it is estimated that it will be possible to develop approximately 13,000 acres during the current fiscal year; however, since such factors as location, topography, cover, and soil type cause wide variations in the cost of various items of work as between projects or areas on a project, and the slowness with which the materials required for the work are being delivered, some deviation from the number of acres estimated to be developed may be expected. That portion of the cost of the work done under this project which is determined to be reimbursable will be returned to the government with interest.

Land Management, Settlement, and Technical Guidance: The work under this project consists of protecting, managing and leasing government-owned lands and structures, selecting settlers for the purchase of developed farm units, consummating sale of the farms, and furnishing technical guidance to purchasers and to private land-owners within the project area on proper irrigation farming methods and land use.

Irrigation water is now available on a number of the projects and development of land has progressed far enough that settlement and disposal of farm units is being accomplished. Government-owned project lands, which have been developed as economic farm units, are being leased pending completion of development and sale. The leases provide, however, for withdrawal of developed farm units from the provision of the lease when the units are ready for sale to selected settlers. Every effort is being made to dispose of developed farm units in accordance with program objectives as soon as possible after development is completed.

There are approximately 610 farm units in government ownership on the Water Conservation and Utilization Projects in various stages of development. Tenants, who have been selected as prospective purchasers by committees composed of local people, who are familiar with the project, the families under consideration, and their ability to assume ownership and operation of a farm, now occupy and operate 191 of the farm units. All other acquired lands, except those on which earth-moving operations are actually in progress, are temporarily leased for crop production or soil improvement purposes. Development has been completed on 312 farm units. Fourteen of these farm units were sold in 1946 and the balance will be sold to eligible farm families as expeditiously as possible. Veterans are given first preference in the settlement and purchase of farm units for which purchasers have not been previously selected and commitments made.

STATEMENT OF OBLIGATIONS UNDER SUPPLEMENTAL FUNDS

Item	Estimated : Estimated		
	Obligations:	Obligations:	Obligations
	1946	1947	1948
<u>Flood Control, General, Department</u>			
<u>of Agriculture (Allotment to Soil</u>			
<u>Conservation Service):</u>			
Preliminary examinations and			
surveys	\$30,984:	\$433,165:	\$427,500
Prosecution of work of water flow			
retardation and soil erosion			
prevention	333,026:	2,165,085:	1,420,000
Total, Flood Control	364,010:	2,598,250:	1,847,500
<u>Special and Technical Investigations:</u>			
<u>International Joint Commission,</u>			
<u>United States and Canada (Transfer</u>			
<u>to Agriculture) (Soil Conservation</u>			
<u>Service):</u>			
Appraisal of results of increas-			
ing the height of ground-water			
table of lands adjacent to			
Kootenai Lake	1,868:	1,889:	1,900
<u>Working Funds, Agriculture, Soil</u>			
<u>Conservation Service, Advances</u>			
<u>from:</u>			
<u>Federal Works Agency: Public</u>			
<u>Buildings Administration, provid-</u>			
<u>ing wartime security for field</u>			
<u>cartographic laboratories</u>	5,364:	- -:	- -
<u>Selective Service System: Tech-</u>			
<u>nical direction of program for</u>			
<u>civilian public service projects:</u>			
<u>for conscientious objectors ...</u>	230,492:	84,270:	- -
<u>Treasury Department: Procure-</u>			
<u>ment Division, for carrying out</u>			
<u>a training program for five</u>			
<u>Chinese students</u>	1,224:	148:	- -
<u>War Department: Army Map Service,</u>			
<u>transliteration of Chinese maps</u>	1,952:	- -:	- -
<u>Corps of Engineers, mapping of</u>			
<u>strategic areas</u>	4,870:	- -:	- -
<u>Army Air Forces, research,</u>			
<u>compilation, drafting, and re-</u>			
<u>production of aeronautical,</u>			
<u>flight and Loran charts, pilots'</u>			
<u>handbooks, and relief models ..</u>	126,261:	16,109:	- -

(Continued on next page)

Item	Obligations: 1946	Estimated Obligations: 1947	Estimated Obligations: 1948
<u>Working Funds, Agriculture, Soil</u>			
<u>Conservation Service, Advances</u>			
<u>from: (Continued)</u>			
<u>War Department: (Continued)</u>			
Office of the Quartermaster			
General, for carrying out research			
investigations	\$1,568:	- -:	- -
Ordnance Department, for carry-			
ing out research investigations	3,288:	\$1,500:	- -
Total, War Department	137,939:	17,609:	- -
<u>Office of Coordinator of Inter-</u>			
<u>American Affairs: Comprehensive</u>			
<u>training of Latin American tech-</u>			
<u>nicians in the principles and</u>			
<u>practices of soil and water con-</u>			
<u>servation and proper land use ...</u>	574:	- -:	- -
Total, Working Funds	375,593:	102,027:	- -
<u>Return of Excess Deposits for Re-</u>			
<u>production of Photographs, Mosaics,</u>			
<u>and Maps (Soil Conservation Ser-</u>			
<u>vice): Trust fund for refund of</u>			
<u>moneys received by the Soil Con-</u>			
<u>servation Service for furnishing</u>			
<u>reproductions and photographs,</u>			
<u>mosaics, and maps, in excess of</u>			
<u>the cost of reproduction</u>	255:	300:	300
<u>Construction, Water Conservation</u>			
<u>and Utility Projects (Allotment to</u>			
<u>Agriculture) (Soil Conservation</u>			
<u>Service): Acquisition and con-</u>			
<u>struction of water conservation</u>			
<u>and utility projects</u>	178,284:	135,199:	150,000
<u>Penalty Mail Costs, Department of</u>			
<u>Agriculture (Allotment to Soil Con-</u>			
<u>servation Service): For cost of</u>			
<u>penalty mail pursuant to Section</u>			
<u>2, Public Law 364, 78th Congress</u>	36,360:	43,000:	50,000
<u>Cooperation with the American Re-</u>			
<u>publics (Transfer from State):</u>			
Training in soil conservation			
of trainees from other American			
Republics a/	26,229:	35,151:	31,972
TOTAL, OBLIGATIONS UNDER SUPPLE-			
MENTAL FUNDS	982,599:	2,915,816:	2,081,672

a/ Schedule for this item appears in the State Department chapter of the Budget.

PRODUCTION AND MARKETING ADMINISTRATION

(a) Conservation and Use of Agricultural Land Resources

Objective: To give assistance to farmers in conserving and improving farm and ranch land resources in the public interest through the use of practices which will (1) restore and improve soil fertility, (2) reduce soil erosion caused by wind and water, and (3) conserve water.

Need for a Conservation Program: Better use of land is a major and continuing problem--both from a national and an individual standpoint. The responsibility for meeting this problem, basic to the future of the nation, necessarily rests upon the nation and the individual. But there are conflicts between the national and individual interest. The nation looks to the future--to protect society's interest in a national resource of utmost importance by passing the soil on to future generations as nearly unimpaired as possible as well as maintaining abundant food and fiber for the present population. On the other hand, many individuals feel compelled to use the soil in a manner which seems best from the standpoint of immediate profit though conscious that such use is not in the interests of soil conservation.

In addition to the need for an understanding of the problem of erosion, its importance and methods for meeting the problem, an "action" program is essential to obtain immediate and continuing performance of soil-building and soil-conserving practices that are not "routine" methods on enough farms to meet the national interest. The percentage of tenancy and absentee-ownership farming which prevails in this country makes it necessary for many farmers to push the production of cash crops. As a result most tenant farmers will not spend money for carrying out conservation practices which may lessen their immediate cash income or increase their current operating outlay.

Only in relatively recent years has there been widespread realization among farmers that the soil is not an inexhaustible factor in our farm economy--that the greater portion of the more productive, more easily cultivated land is already under cultivation; that soil erosion has taken an enormous toll, and that the ratio of population to productive land resources is going up.

At the time of the enactment of the Soil Conservation and Domestic Allotment Act, the need for an "action" program to obtain widespread use of soil-conserving practices was long overdue. Soil depletion had characterized American agriculture for decades and the overcropping after World War I made matters worse. Burdened with debt and driven by failing farm markets to seek compensation by increasing the acreage of soil-depleting crops, farmers kept on mining the soil. The tremendous food production of World War II which disrupted proper crop rotations and farming practices created an additional drain on the land.

Need for Federal Assistance: Federal assistance is an effective means of directly inducing farmers to carry out conservation practices. Farmers are the key figures in conservation. But history has shown that farmers alone cannot do an adequate conservation job. Among the most serious obstacles to soil conservation have been:

- (1) The relationship of the cost of purchasing materials or services or carrying out practices to the immediate or obvious increase in income derived causes many of the conservation measures to appear to be unprofitable to the individual operators. The instability of agricultural income has served to restrict the amount of money individual farmers are able or willing to expend for carrying out practices. The benefit of a practice, from an individual point of view, unfortunately is measured chiefly with a dollars and cents yardstick--what financial return can be expected in a year or two.
- (2) The difference in the individual and public interest in evaluating the results of conservation practices. From a national standpoint, the value of a practice lies in its effectiveness to maintain or increase the productivity of the soil over a relatively long period of time. From an individual standpoint, the value of a practice lies in its effectiveness in yielding direct returns. One is concerned with the general welfare, present and future, the other with an individual standard of living.
- (3) The form of land tenure that prevents the operator from having a direct economic interest in conservation. The prevailing conditions under which tenants operate discourage soil conservation efforts on their part. Tenants have no assurance of renewal of leases and move on the average of every three years. Therefore, the tenant has little interest in or desire to make permanent improvements for he is not compensated directly for them and looks upon such practices as likely to reduce his present income. Under these conditions the landlord and future tenants will receive the benefits of his investment in conservation. Overcropping and specialization in production of soil-depleting crops tends to be characteristic of much tenancy farming.

In recognition of the economic obstacles confronting farmers, the Congress enacted the Soil Conservation and Domestic Allotment Act, which provides assistance by contributing a share of the cost of carrying out practices or by furnishing materials or services for positive performance of improving and conserving farm and range land. This enables and encourages farmers cooperating in the agricultural conservation program to carry out practices to check the inroads

of soil erosion and to make needed adjustments in the application of the principles of good soil management to their enterprises. The agricultural conservation program has been the prime factor during the past decade in helping many farmers shift from exploitive farming to soil-conserving farming.

Assistance Offered to Farmers: Under the agricultural conservation program assistance is given to farmers who perform practices that (1) maintain or increase soil fertility, (2) control and prevent soil erosion caused by wind and water, (3) increase conservation and better agricultural use of water, and (4) conserve and increase range and pasture forage. Farmers are encouraged to use their own initiative in getting their practices performed but increased efforts will be made to stimulate action by the county and community committees in helping farmers with actual performance. Technical advisory committees are urged to continue their active assistance in developing the soil-building practices approved for each State and in writing up practice specifications.

Shifting Conservation Costs: Soil conservation under the agricultural conservation program is a joint farmer-Government partnership. As a practice becomes widely accepted and routine in an area the rate of payment is reduced and the amount contributed by the farmer increases. This means that every dollar appropriated by the Congress is utilized to the utmost in obtaining more conservation. The gradual shifting of the cost to the farmers permits (1) allocating more funds for practices not being carried out at present in the volume needed, (2) introducing new practices, and (3) bringing more farms under the program. Under the 1946 agricultural conservation program it is estimated that farmers will contribute about one-half of the cost of the practices.

Program Development: The agricultural conservation program is designed to meet local conservation needs and is developed from recommendations received from the field. Prior to the announcement of a program the State Committees submit recommendations based upon conservation needs, program experience, and the suggestions of local committeemen, other farmers, Experiment Stations, Extension Service, and other technical workers. The national bulletin which sets forth the general provisions and lists the practices approved for the nation as a whole, incorporates those recommendations which are consistent with the national policy of obtaining maximum conservation of soil and water resources within the funds available.

Program Administration: At the local level the community, county, and State Committees administer the agricultural conservation program. The State Committees are composed of from three to five members appointed by the Secretary and are made up largely from successful farmers and ranchers who have had experience with the program as elected county and community committeemen.

The State Committees are in general administrative charge of the programs in the States. Keeping always in close touch with county and community sentiment they determine State policies and direct the application of the program in the States.

State office personnel under the direction of the State Committee assist in developing programs adapted to the State conditions and needs and in supervising program activities in the counties. They recommend conservation materials and services to be furnished and supervise procurement and delivery thereof; they supervise and assist counties in reporting performance; they review and pass upon farmers' reports; they make necessary spot checks of county performance checkers; they audit applications - for payment, conservation materials and services, payrolls, county association records; they supervise and assist local committeemen in administering all phases of the tobacco marketing quota programs, including certifying results of referendums, reviewing and approving farm acreage allotments and quotas, auditing and certifying claims for refunds, etc.; they perform all other operations essential to carrying out the program.

All farmers participating in the agricultural conservation program are members of the county agricultural conservation associations. Community committees are elected annually from and by members of the associations in each community. At the same time delegates to county conventions are chosen who, in turn, elect three members of the association as members of the county committee.

County and community committees have active responsibility for the local administration of the agricultural conservation program. They fit the program to local conditions. They perform at the county level essentially the same program functions as at the State level except that they work directly with farmers in the community.

Placing responsibility for administration of the agricultural conservation program upon farmers themselves is the cardinal principle of the Production and Marketing Administration. This type of organization setup is conducive to promoting interest in the program and thereby increases conservation results through more widespread participation. The delegation of authority and responsibilities to the State and county committees insures that the program will continue to be a farmer's program--adapted to their local needs.

In developing programs adapted to local needs within a broad national policy framework, each State selects its own list of conservation practices from those approved for the nation. The use of a plan for allocating funds to counties as well as States gives county and community committeemen greater responsibility for choosing practices to be emphasized in local areas.

Until recently, the acreages and types of land on a farm were used to compute the maximum annual assistance available for a farm. Now more weight is given to the difference in the conservation needs of individual farms. This approach makes it possible to attack more directly the most important conservation needs of individual farms and obtain more conservation with the funds available than would otherwise be possible.

The steps in applying the agricultural conservation program to individual farms are as follows:

- (1) The State Committee allocates a conservation budget to each county.
- (2) County and community committeemen study a list of approved practices, county conservation needs and the funds available before selecting those practices which are most needed in the county and which are not routine for program assistance. They also have an opportunity to use a portion of the county budget to encourage the use of practices that fit local needs which have not been included in the list of approved practices.
- (3) The community committeemen sit down with farmers and together they plan a year's program for the farm.
- (4) The County Committee considers each farm plan on the basis of conservation needs of the individual farm and other farms and the total amount of assistance available under the county budget.

Practices Carried out under the Program: Application of lime, phosphate, and other materials to restore plant food--The materials are applied to pastures and grass and legume seedings to replenish deficiencies in minerals and organic matter which affect both production and the nutritive value of such production. The application of lime and fertilizers makes soil more fertile, stimulates more vigorous growth and better quality of grasses and legumes, and results in greatly increased production of better quality hay and grasses for livestock. This increased growth reduces soil erosion. Although the use of lime and fertilizers has greatly increased under the program, the use of such materials could be increased by six or seven times without fully meeting conservation needs.

Use of green manure and cover crops--Green manure crops add organic matter to the soil. Cover crops prevent erosion and leaching. In all sections of the country intensive cropping has drained the soil of much organic matter.

Both legumes and non-legumes are used as cover crops. The chief difference is that legumes add both organic matter and nitrogen whereas non-legumes add organic matter only.

Erosion control and water conservation--These practices include contour farming, stripcropping, terracing, protecting summerfallow, construction of dams and ponds, tile and ditch drainage, and improving irrigation systems.

According to estimates, about 61 percent of the cultivated land of the United States is sufficiently rolling that when not protected by vegetation severe erosion results from runoff of rain water.

Stripcropping, combined with contour tillage, crop rotations, winter cover crops, etc. has been proved to be one of the most practical means of conserving soil and water on cultivated land.

Protective summerfallow is the best means of carrying over moisture from one year to the next in arid and semiarid areas and at the same time proper protective measures reduce erosion.

Mechanical control devices, such as construction of dams, terracing, tile and ditch drainage, etc. are used along with the vegetative methods of erosion control to prevent wind and water erosion, to supply water for livestock, and to protect wildlife.

Harvesting grass and legume seed--This is a special practice financed in part by the special appropriation of \$12,500,000 to meet a threatened shortage of grass and legume seeds which were badly needed. Payments were made for harvesting alfalfa, red clover, and alsike seeds.

Range and pasture improvement includes water conservation, establishing permanent pasture, proper management of range and pasture, and drilling wells.

The miscellaneous practices include control of noxious weeds, land clearance, and forest improvement.

Despite the considerable progress in increased conservation of soil and water made under the program, the minimum conservation needs of our farms and ranches stretch far beyond present performance. Estimates of these needs on a State basis have been made by State PMA committees in cooperation with State technical committees and soil specialists at land-grant colleges and State Experiment Stations. A statement is set forth below showing the major practices carried out under the 1939-1945 agricultural conservation programs and the estimated total annual need.

SELECTED PRACTICES CARRIED OUT UNDER 1939-1945 AGRICULTURAL CONSERVATION PROGRAMS AND ESTIMATED TOTAL NEED 1/

Practices	1939	1940	1941	1942	1943	1944	1945	Total Annual Need
Ground limestone (tons)	5,791,959	12,001,133	13,523,838	18,971,484	19,030,163	23,838,309	21,337,826	59,492,000
Application of phosphate to conserve crops (basis 20% P ₂ O ₅) (tons)	509,509	748,874	909,319	1,073,304	1,872,780	1,949,256	2,400,549	13,443,000
Field stripcropping (acres)	- -	5,748,031	6,194,215	8,029,489	6,582,854	6,248,194	6,074,768	27,551,000
Seeding or reseeding permanent pastures (acres)	1,000,283	1,910,759	1,682,039	1,484,469	1,522,520	1,621,600	4,209,480	83,549,000
Legume and nonlegume green manure and cover crops (acres)	11,626,871	12,063,972	14,494,213	17,342,697	25,320,871	22,880,479	18,859,982	98,970,000
Contouring intertilled and drilled crops (acres)	7,038,096	8,925,422	9,822,151	11,018,157	14,601,038	17,987,177	17,259,821	90,761,000
Protecting summer fallow (acres)	6,806,714	7,416,684	8,065,390	14,105,479	10,670,187	12,323,909	14,030,913	22,721,000
Deferred grazing non-crop pasture and range and grazing management (acres)	28,941,434	28,753,241	26,337,979	19,378,483	89,525,581	86,081,830	87,769,768	394,049,000
Terracing (acres)	1,387,941	1,103,586	1,046,365	896,720	1,088,581	1,719,824	988,588	77,885,000
Sod waterways on cropland (acres) 2/	- -	171	189	666	6,691	39,388	63,135	4,908,000
Dams and ponds for livestock (cu. yards)	49,919,000	64,663,000	52,095,000	43,865,000	49,110,000	127,273,000	94,658,403	1,300,273,000

1/ These are a few of the more important practices that have been carried out extensively since the beginning of the program. In areas where practices become routine the rate of assistance is lowered or dropped altogether.

2/ In some years the extent of this practice was measured in linear feet. For such years the area is estimated assuming a width of 10 feet - the minimum approved width.

Marketing Quotas: Marketing quotas were in effect during 1946 on four types of tobacco; namely, burley, flue-cured, fire-cured, and dark air-cured. In line with the Department's established policy of bringing supplies and demand into balance, 1946 flue-cured allotments were increased 10 percent over 1945 and burley allotments were reduced 10 percent under 1945. For the first time since 1943 acreage allotments for fire-cured and dark air-cured farms were established in 1945. The allotments were based on marketings from the farms during the past five years with consideration given to adjustment factors provided by law.

Quotas for any crop can be applied only after approval by at least two-thirds of growers voting in a referendum. In October, 1945, the growers of dark fire-cured and dark air-cured tobacco voted in a referendum for application of quotas for three years. A total of 90.8 percent of the fire-cured growers and 96.1 percent of the dark air-cured growers voting favored quotas for three years. In July, 1946, a total of 98.4 percent of the flue-cured growers voted in favor of quotas for three years and in October, 1946, 95.9 percent of the burley tobacco growers voted in favor of quotas for three years.

To administer marketing quotas in 1946, county and community committeemen established acreage allotments and normal yields for 539,894 farms, notified farmers of their allotments, determined by measurements the acreage actually planted on each farm, estimated the production on those farms where planted acreages exceed farm allotments, issued marketing cards to identify the tobacco marketed from each farm and reviewed the records of marketings from each farm.

Penalties collected on the 1945 crop amounted to \$3,852,210. The average annual collection of penalties from 1938 through 1945 was \$1,181,982. These collections are deposited into the General Fund of the Treasury.

(b) Salaries and Expenses, Agricultural Adjustment Administration

This Budget schedule reflects the allotments and transfers to other agencies of the Department from the unobligated balance of the sum of \$100,000,000 appropriated in accordance with the provisions of Section 12(a), title I, of the Act of May 12, 1933. Under authority contained in the Agricultural Appropriation Act, allotments and transfers are made from this fund for International Production Control Committees (OFAR), and to the Bureau of Animal Industry for "Marketing Agreements, hog-cholera virus and serum". Detailed schedules of obligations for these two items appear in the Budget under the titles of the respective agencies.

(c) Sugar Act

Objective: To protect the welfare of consumers of sugar and of those engaged in the domestic production of sugar and to encourage the production of an adequate supply of sugar for domestic needs.

Sugar in Short Supply: At present the principal problem relating to domestic sugar under the Act is to increase production in the face of continuing shortages of manpower and materials. Available supplies of sugar during the past year have barely reached the civilian consumption rate under individual and industrial rationing. This rate has been about one-fourth less than the 1935-39 average and considerably lower than any war year except 1945. Furthermore, stocks of sugar in the hands of primary distributors have generally been below effective operating minimums during 1946 and are expected to remain short for some time.

Suspension of Quota Provisions of Act: With the elimination of sugar surpluses in the United States and the rest of the world during the war, and the development of acute shortages, quotas under the Act were suspended. The quota provisions of the Act, providing for specific quotas for each area supplying the United States with sugar, were suspended by Presidential proclamation on April 13, 1942.

Conditional Payments and Rates: The Secretary is authorized to make conditional payments to growers in the United States, Hawaii, Puerto Rico, and the Virgin Islands on the basis of commercially recoverable sugar from beets and cane grown on their farms based on rates specified in the Sugar Act. Growers producing less than 350 tons of sugar receive the base rate of payment which is 80 cents per 100 pounds of raw sugar produced. Rates of payments to growers who produced 350 tons or more are progressively smaller with increases in the amount produced by individual growers. The minimum payment is 30 cents per 100 pounds. Estimated conditional payments per ton of recoverable sugar vary from about \$9.79 a ton in Hawaii to \$16.64 per ton in the continental beet area. This variation is attributed primarily to the large number of small producers in the sugar beet areas.

Eligibility for Participation in Benefits of Sugar Act: To receive payments, growers must comply with certain conditions as follows:

- (a) Elimination of hired child labor
- (b) Payment of fair and equitable wages to field laborers
- (c) In the case of processor-growers, the payment of fair prices to other growers from whom they purchase sugar beets and sugarcane.
- (d) Carrying out approved farming practices for preserving and improving the fertility of the soil and for preventing soil erosion.
- (e) When quotas are in effect, adjustment of the production of sugar beets and sugarcane on each farm to the amount required to provide the farm's proportionate share of the over-all sugar market for the area involved

Acreage-Abandonment and Crop-Deficiency Payments: Under the terms of the Sugar Act, the Secretary is authorized to make acreage-abandonment and crop-deficiency payments resulting from drought, flood, storm, freeze, disease, or insect damage. Acreage-abandonment payments are made on the basis of one-third of the normal yield of commercially recoverable sugar on the acreage abandoned. Crop-deficiency payments on harvested acreage are made on the difference between actual yield and 80 per cent of normal yield.

Plan of Work: The general work of determining performance on individual sugar beet and sugarcane farms and in making payments to individual producers is carried out through the field agencies of the Department. In the continental producing areas, most of this field work is done through state and county farmer committees.

Public Hearings Held: Numerous public hearings and conferences with representatives of the various segments of the sugar industry and other interested individuals or groups are required. Public hearings are held annually in each major domestic sugar producing area in connection with annual determinations of fair and reasonable wage rates and prices for sugar beets and sugarcane. Annual determinations for each such area are required also with respect to farming practices and proportionate shares.

Investigations and Surveys: Special investigations and surveys are carried on in the field to compile basic information to be used in developing allotments, determinations, and regulations. Surveys to determine the cost of producing and processing sugar beets and sugarcane are made in the various producing areas as changes in conditions may require. Following special investigation and study, recommendations have been made under the program with respect to terms and conditions of contracts between growers and processors of sugar beets and cane and between laborers and growers.

Revenue: Pursuant to Chapter 32 of Internal Revenue Code (formerly Title IV of the Sugar Act) excise taxes were collected amounting to \$73,293,966 during the fiscal year 1945; \$56,731,986 during the fiscal year 1946; and, it is estimated that \$70,000,000 will be collected during the fiscal year 1947. The appropriation for the fiscal year 1945 was \$52,510,203; for 1946, \$48,446,000, and for 1947, \$53,500,000.

Statement Regarding Major Activities: The chief current problem of the domestic sugar-producing areas is to attain an increased volume of production. In working out the various programs designed to provide sugar growers with additional income in order to encourage production, it has been necessary to correlate the activities relating to fair price and wage determinations under the Sugar Act of 1937 with the subsidy programs and with the recruitment of laborers in sugarcane and sugar beet areas.

Fair-Price Determinations Issued .

Fair-price determinations issued during the year covered the 1945 sugarcane crop in Louisiana and Florida, the 1945 crop in the United States sugar beet areas, the 1945-46 crop of Puerto Rican sugarcane, the 1946 crop of Hawaiian sugarcane, and the 1946 crop of Virgin Islands sugarcane. These determinations establish the price which producers, who are also processors, must

pay for cane or beets bought by them from other growers in order to qualify for payments under the sugar program. During 1946 cost investigations have been conducted in Puerto Rico and Louisiana for use in connection with those determinations.

Minimum Wage Rates Established

Wage requirements to be met by sugar beet and sugarcane growers as a condition for payment were established during the year for all the domestic sugar producing areas. Under active competition for a short labor supply, many growers paid wages higher than the required minima. However, the prescribed rates provided a necessary protective minimum level and also served as a stabilizing factor on wages paid in the industry. General upward revisions were made in most of the minimum wage rates paid in order that they may reflect a share of the larger grower income resulting primarily from the price support programs, as well as to offer protection to workers against the increases in living costs.

The minimum wage rates, in the sugar beet producing areas, were increased from \$35.13 per acre in 1945 to \$41.16 per acre in 1946, approximately 17 percent. This represented the first general increase since 1943. (The 1943 minimum rate was \$34.68 per acre.) In certain districts the rates established for 1946 became the prevailing rates while in other districts wages at higher rates were more generally paid.

The 1945 harvesting wage rates were increased by about 6 percent in the Louisiana sugarcane producing area. Competition for ordinary field laborers was not so great due to the increased use of mechanical harvesting equipment and, consequently, most of the field work was done at the established minimum rates. The minimum rates for cultivating in 1946 were increased by about 8 percent over 1945 and most growers paid at such rates.

In the production of the last three sugarcane crops in Florida, growers have been forced by severe competition for labor to pay wages considerably higher than the required minima. In contrast to other producing areas, the 1945 crop was the first full crop for which a price support payment was made. Largely because of this increase in grower income, the day rates for harvesting the 1945 crop were increased by approximately 17 percent. Piece rates were not increased because new methods of harvesting resulted in significantly higher earnings to workers at the former rates. Since the 1945 cultivation rates already reflected the increased income the same rates were extended to June 30, 1946.

A readjustment of the wage rates for Puerto Rico was made in 1944 to provide basic rates at a specified sugar price with automatic increases for higher sugar prices, consequently no further changes were made in the 1946 wage determination.

The earnings of cane workers in the Virgin Islands were improved by increasing the required day rates for 1946 by 24 cents per day or 15 percent and by establishing the rates for cutting cane, which provided a means for workers to earn more than the day rate.

Minimum wage rates for sugarcane workers in Hawaii were increased by about 45 percent for 1946 due to acceptance of rates agreed upon between the labor union and the growers association. However, this does not represent an increase in workers' earnings to that extent since average earnings were considerably above the previous minima.

Soil Conserving Practices

The approved farming practices required of sugar beet growers and sugarcane growers in Louisiana, Florida, Hawaii, and the Virgin Islands as a condition for payment under the Act are not static and are revised as the occasion demands. For example, the requirement for Puerto Rico was changed in 1946 to permit the averaging of amounts of plant food applied per acre to all sugarcane in lieu of previous separate minimum requirements of fertilizer per acre for plant cane and ratoon cane.

Proportionate Shares

The determinations of proportionate shares for sugar beet and sugarcane growers for the 1946 crop continued in effect the wartime policy of unlimited production.

Miscellaneous Surveys

In February, 1946, a cooperative agreement was executed with the Louisiana State University for the purpose of conducting a sugarcane trash survey. The purpose of this survey is to determine the effect of field trash on the performance of a sugarcane milling equipment; and the effect of trash on the reported weight and sugar content of the sugarcane and the recoverability of sugar therefrom, which figures form the basis for conditional payments to growers.

(d) Exportation and Domestic Consumption
of Agricultural Commodities

Purpose: Activity under this appropriation is designed to stabilize and maintain farm prices by (1) purchasing price-depressing agricultural surpluses which are distributed to school lunch programs and state and local welfare institutions, (2) encouraging the exportation of certain agricultural commodities in order to reduce surpluses and maintain foreign markets for the American farmer, (3) encouraging the diversion of farm products to new and industrial uses.

Need for Federal Assistance: Agricultural production rose to an unprecedented volume during the war because of the whole-hearted effort of American farmers to meet the military and civilian needs of the United Nations. As the war came to an end, the demand for food in devastated areas and at home required continued high production. The need for high agricultural production still exists but the adjustment of this production to peace-time markets at home and abroad may cause sharp dislocations in prices and will very likely result in surpluses in particular commodities. During this period there is vital need for a program which through the purposes of Section 32 can aid in carrying out price support commitments to farmers, and assist in stabilizing our agricultural economy.

Employment and the level of national income will have an immediate and important effect on the domestic demand for farm products. Also, shifts in consumption patterns as substitutes are no longer required will tend to create surpluses of commodities formerly in demand as substitutes. While it is not known what the level of foreign trade in specific commodities will be in 1948, it is anticipated that with rehabilitation of foreign agriculture more farm products will be available abroad and consequently the export market for the products of the American farms will face competition with those of other lands.

Activities under this Appropriation, by Projects: Following are statements explaining operations under the various projects:

Project 1. Purchase of Agricultural Commodities for Distribution.

Methods of Operation: Purchases are made in instances where surpluses exist or seem to be developing and the commodities purchased are distributed to the school lunch program and to welfare and other agencies authorized to receive them.

Activities During 1946: Approximately 150.7 million pounds of agricultural commodities were purchased under this project and 76.6 million pounds or 50.8 percent was distributed to schools and child care centers, and 74.1 million pounds or 49.2 percent to institutions and welfare agencies as shown by Table I.

In April, the peak month of participation during 1946, 3,587,965 children in 20,411 schools and child care centers were receiving meals prepared partly with foods made available through purchases

under this project. In addition, 653,451 persons in institutions and welfare assistance cases received commodities or meals prepared from commodities distributed through the program during the same month. Table II shows by States the total number of persons benefiting under this program during the month of April which was a peak month. Illustrations of market conditions which necessitated action follow:

Irish Potatoes

Production of potatoes in the United States in 1945 amounted to 418 million bushels. This was 14 percent larger than the 1935-44 average of 373 million bushels and was the third largest crop on record to that time.

The 1946 crop in the 12 early potato States, most of which was harvested before July 1, was 81 million bushels, a new record. This is 26 percent larger than the 64 million bushels harvested in 1945 and 69 percent larger than the 1935-44 average of 48 million bushels.

A potato purchase program was developed under Sec. 32 as a part of the overall price support program. During fiscal year 1946, 4,100,000 bushels of potatoes, at a cost of \$5,900,000, were purchased and distributed to available outlets.

IRISH POTATOES

Year	: Acreage : : Planted :	: Acreage : : Harvested :	: Yield : : Per Acre :	: Total : : Production :
	:Thous. Acres	:Thous. Acres	: Bushels	:Thous. Bu.
1935-39 Ave.	: 3,123	: 3,033	: 117.5	: 355,513
1945	: 2,782	: 2,696	: 155	: 418,020
1946	: 2,627	: 2,578	: 184	: 474,009

Sweet Potatoes

In 1945, the crop of 66.8 million bushels of sweet potatoes produced in the United States was slightly larger than the 1935-44 average production of 66.4 million bushels. The demand for sweet potatoes was strong at ceiling prices except for a brief period in the fall. When prices dropped to support levels during October 1946 on the Eastern Shore of Virginia where storage facilities were limited, the Government purchased 46 cars thereby removing the surplus and re-establishing the price of potatoes at support levels.

UNITED STATES DEPARTMENT OF AGRICULTURE
PRODUCTION AND MARKETING ADMINISTRATION

Table I

Quantity of USDA Commodities Distributed Through Direct Distribution, Fiscal Year 1946

Commodity	Total	Institutions and Welfare Assistance	Schools and Child Care Centers
	(Pounds)	(Pounds)	(Pounds)
Dairy & Poultry Products			
Eggs, dried	15,839	6,611	9,228
Eggs, frozen	15,995	7,565	8,430
Milk, evaporated	10,510,760	100,238	10,410,522
Meat & Meat Products			
Beef Stew	44,989	- -	44,989
Fat backs	1,800	- -	1,800
Chopped ham	278,982	- -	278,982
Pork luncheon meat	159,529	- -	159,529
Pork sausage meat	157,752	- -	157,752
Vienna sausage	672,679	- -	672,679
Meat & vegetable stew	55,634	- -	55,634
Corn beef hash	316,181	- -	316,181
Cereals			
Corn meal	119,937	- -	119,937
Wheat flour	199,603	- -	199,603
Concentrated oat meal	79,972	- -	79,972
Native rice	49,400	- -	49,400
Fruit			
Apples	1,622,218	247,385	1,374,833
Concentrated orange juice	3,445,635	1,028,510	2,417,125
Canned pineapple	2,154,421	- -	2,154,421
Dried prunes	649,835	- -	649,835
Vegetables			
Dried beans	716,693	- -	716,693
Canned beans	2,741,555	- -	2,741,555
Green beans	1,262,246	501,482	760,764
Soya beans	297,156	- -	297,156
Canned beets	1,902,369	- -	1,902,369
Fresh beets	1,380,528	685,700	694,828
Fresh cabbage	12,272,264	8,088,739	4,183,525
Canned carrots	2,256,569	- -	2,256,569
Fresh carrots	481,837	112,728	369,109
Dehydrated greens	784	784	- -
Sweet potatoes	1,141,887	591,626	550,261
White potatoes	100,829,814	61,659,254	39,170,560
Fresh spinach	662,584	444,267	218,317
Tomato flakes	1,338,777	243	1,338,534
Canned tomatoes	808,998	- -	808,998
Onions	685,248	655,019	30,229
Tomato paste	99,498	- -	99,498
Fats and Oils			
Oleomargarine	531,470	- -	531,470
Vegetable shortening	593,608	- -	593,608
Miscellaneous			
Chicken soup	197,454	- -	197,454
Total	150,752,500	74,130,151	76,622,349

UNITED STATES DEPARTMENT OF AGRICULTURE
PRODUCTION AND MARKETING ADMINISTRATION

Table II

Number of Persons Participating in Direct Distribution in Program during Month
(April) of Peak Participation Fiscal Year 1946

	Total Number of Recipients	Schools and Child Care Centers	Institutions and Welfare Assistance
Northeast			
Connecticut	30,193	15,743	14,450
Delaware	28,665	25,902	2,763
District of Columbia 1/	- -	- -	- -
Maine 1/	- -	- -	- -
Maryland 1/	- -	- -	- -
Massachusetts	45,977	17,643	28,334
New Hampshire	10,289	5,034	5,255
New Jersey	60,380	36,438	23,942
New York	124,850	75,358	49,492
Pennsylvania	22,231	5,289	16,942
Rhode Island	18,742	12,292	6,450
Vermont	51,182	51,182	- -
West Virginia	109,157	75,053	34,104
Southern			
Alabama	182,894	173,528	9,366
Florida	143,220	143,220	- -
Georgia	432,400	414,321	18,079
Kentucky	58,773	46,529	12,244
Mississippi	112,212	106,212	6,000
North Carolina	327,011	311,744	15,267
South Carolina	82,722	82,722	- -
Tennessee	126,833	111,590	15,243
Virginia	61,882	47,736	14,146
Midwest			
Illinois	386,294	316,256	70,038
Indiana	80,182	59,316	20,866
Iowa	3,515	3,515	- -
Michigan	21,841	6,858	14,983
Minnesota	82,073	69,746	12,327
Missouri	95,517	69,645	25,872
Nebraska	14,164	6,173	7,991
North Dakota	15,578	12,159	3,419
Ohio	149,435	82,475	66,960
South Dakota 1/	- -	- -	- -
Wisconsin	65,279	39,781	25,498
Southwest			
Arkansas	146,621	132,450	14,171
Colorado	39,138	27,208	11,930
Kansas	33,841	24,927	8,914
Louisiana	94,040	81,220	12,820
New Mexico	14,846	13,114	1,732
Oklahoma	110,280	96,864	13,416
Texas	144,215	120,478	23,737
Western			
Arizona 1/	- -	- -	- -
California	272,925	242,743	30,182
Idaho	26,417	24,177	2,240
Montana	750	750	- -
Nevada	3,747	2,917	830
Oregon	52,831	47,966	4,865
Utah	53,403	50,320	3,083
Washington	191,148	187,548	3,600
Wyoming	12,555	10,655	1,900
Alaska	- -	- -	- -
Hawaii	- -	- -	- -
Caribbean Area	201,168	201,168	- -
Total	4,341,416	3,687,965	653,451

1/ No commodities were distributed in these states during April. However, commodities were distributed in these states during a number of other months in this fiscal year.

Onions

The 1945 late summer onion crop of 37,449,000 sacks was 46.7 percent above the ten-year average production of 25,522,000 sacks. The early spring crop production in 1946 was 8,346,000 sacks as compared with 1945 crop of 6,035,000 sacks and the early summer crop was a record production of 3,873,000 sacks. Beginning in April, prices received by growers for onions continued to decline from month to month as heavy shipments moved to market from the large spring crop and the early summer record crop. To relieve the market and assure the producer a reasonable return, considerable quantities of surplus onions were purchased for distribution through the school lunch program and to eligible institutions and welfare agencies.

Snap Green Beans

Favorable weather conditions in May and June in South Carolina advanced by two weeks the harvest of the snap bean crop, which caused it to reach the market at the same time beans from Alabama, Mississippi, and Louisiana were being marketed. As a result, on May 1 there were 2,826,000 bushels of snap beans on the market in comparison with 2,212,000 bushels at the same period in 1945. It was necessary to inaugurate a purchase program to prevent spoilage and to assist in obtaining a reasonable return to growers.

Cabbage

In the spring of 1946, favorable weather conditions advanced the harvest of cabbage in the Midwestern Area, causing it to be marketed in June and July in competition with cabbage from the East Coast Area. Consequently, during this period there were 164,700 tons of cabbage on the market in comparison with 118,000 tons at the corresponding time of the prior year. Accordingly, it became necessary for the Government to purchase cabbage to prevent waste and relieve the disturbed market condition.

Project 2. Encouragement of export of agricultural commodities program payments

Method of Operation: Current domestic prices of cotton and wheat, two important export commodities, are higher than the world price. As a result, American exporters cannot pay domestic prices and compete in the world market without government assistance. In order that the United States may obtain its fair share of exports, a differential is paid to exporters in an amount necessary to put the commodity exported on a competitive world price basis with comparable foreign commodities. This program of maintaining foreign markets assists in disposing of surplus stocks and supporting farm prices.

Activities During 1946 on Cotton and Irish Potatoes:

Raw Cotton

Differential payments of 4 cents a pound were made to domestic exporters of cotton who complied with the terms and conditions of the cotton sales for export and furnished satisfactory evidence of exportation. Approximately 420,000,000 pounds raw cotton was exported under this program in 1946, with total indemnity payments of approximately \$16,800,000.

Irish Potato

This program provided for the exportation of the 1946 crop of late potatoes to Canada as a means of reducing the unusable surplus and supporting the price to growers. Payments were made for each hundred pounds of Irish potatoes so exported, provided that (a) the purchases of Irish potatoes in the United States were made from certified dealers, (b) the price paid for the potatoes were at least the applicable support price, (c) the potatoes so purchased were not reimported into the United States, and (d) no permits for exportation of potatoes from Canada except permits for the exportation of certified seed potatoes were issued during the life of the agreement. On shipments from North Dakota and Minnesota to Eastern Ontario and Montreal markets the payment was 45 cents per hundredweight; on shipments from these States to Quebec markets the payment was 65 cents per hundredweight; on all other shipments the payment was 20 cents per hundredweight.

Indemnity payments totaling \$1,200,000 were made for the exportation of approximately 3,200,000 cwt. of potatoes under this program during 1946. No activity is anticipated in fiscal years 1947 and 1948. In normal times potatoes are very difficult to move in export programs. Shipments can be made only during certain seasons of the year as early and intermediate potatoes are too highly perishable for overseas shipment. Winter storage potatoes may be shipped but because of the weight and volume and the difficulty of handling they are not a good export commodity. Furthermore, the major potato consuming countries are largely self-sufficient in this commodity.

Project 3. Diversion of agricultural commodities to by-products and new uses

Methods of Operation: There are a number of commodities--some of them perishable or semi-perishable in nature--for which immediate assistance can be obtained either through diversion to secondary or by-product channels or diversion to undeveloped channels of domestic consumption such as Irish potatoes to industrial use and livestock feed, cabbage for kraut, and cotton to new uses, and through the diversion increase returns to producers by utilizing surplus agricultural commodities. The method of operation varies with the program.

Activities During 1946:

Irish Potato Diversion Program

The price support activities for Irish potatoes this year are being conducted on a level far exceeding that of any previous year, since the crop is of record size. One of the most economical methods of support is through diversion into the manufacture of starch, flour, alcohol, glucose, livestock feed (raw form and ensilage) and other industrial uses.

Starch--Most of the domestic production of Irish potato starch has a specialized use in the sizing of fine-count textiles. Small quantities are used in food, and an increasing quantity in the manufacture of dextrines and adhesives.

Flour--Potato flour is widely used in commercial baking because products made with an admixture of potato flour retain freshness longer. Also, it is a constituent in some soup mixtures and a binder in sausages of various types.

Alcohol--Production of alcohol from potatoes has been limited, chiefly due to the fact that processing plants are designed to handle a dry product such as grain. However, a few plants have experimented with both raw and dried potatoes with satisfactory results. The present need for grain in foreign countries is stimulating the use of potatoes for alcohol production to such an extent that considerable tonnage will be used for distillation.

Glucose--Production of glucose from potatoes for human consumption is still in the experimental stage, the principal problem being the development of an efficient method of eliminating protein. Production of low-grade glucose through hydrolyzing with acids is a cheap and practical method of producing a high grade livestock feed. The 22 percent protein content, which is a handicap in terms of glucose for human consumption, is a benefit in terms of livestock feed.

Livestock Feed--Potatoes are a satisfactory livestock feed both in raw form and as ensilage, and have been used extensively abroad and in some sections of the United States. Also, experiments have been conducted by several State experiment stations in recent years which may result in increased use of potatoes as livestock feed. Dehydration of potatoes for feed has been practiced extensively in Europe for a number of years, and has been adopted here in a limited way for surplus removal.

Rates of Payment--Potatoes diverted under this program are those grown by participants or purchased by participants for their own account from growers or associations of growers or their authorized agents, or from dealers who have been certified by State

Potato Committees as eligible to participate in price support operations. The rate of payment, including any allowances for transportation or expenses incidental to diversion operations, must not exceed the applicable support price. Participants who diverted potatoes acquired by purchase were required to pay for such potatoes not less than the support prices applicable at the times and places of purchase, or their equivalents.

Payments totaling \$1,437,358 were made during fiscal year 1946 for the diversion of approximately 3,139,500 bushels of potatoes.

COTTON PROGRAMS

Cotton Insulation, Cotton Automotive-Batts, and Cotton for Paper were the three domestic cotton diversion programs. The objective of each of these programs is to utilize and develop new markets for low-grade, short staple American-grown cotton, which because of its limited uses is generally in excess supply.

Outlet for Half Billion Pounds of Low-Grade Cotton: It has been estimated that less than 1/10 of the potential market for Cotton Insulation has been filled, and that if cotton were used to the extent of 10 percent of such market, approximately 500 thousand bales of cotton would be utilized annually. Cotton Automotive-Batts markets offer an outlet for fiber equivalent to 300 thousand bales of cotton annually, and Cotton for Paper markets offer an annual outlet for raw materials equivalent to 275 thousand bales of lint cotton.

Self-Sustaining Markets: Products manufactured under these programs are expected to become sufficiently well-established so that manufacturers may continue the use of lint cotton in these purposes and operate on a self-sustaining basis after Government assistance is terminated. Concerns cooperating in these programs, by filing and receiving approval of prescribed applications may receive allocations permitting them to use cotton in maximum specified quantities in manufacturing a product which meets a minimum specified quality standard.

Cotton Insulation

Commercial manufacture of cotton insulation has increased rapidly. The insulation value of cotton per inch of thickness is the highest of any material at present commercially available. Production under the program increased from about 282,000 pounds during the fiscal year 1941 to about 8.5 million pounds in 1945 and to approximately 12 million pounds in the fiscal year 1946. Of the 12 million pounds produced in 1946, 8.5 million pounds were manufactured under the 1944 program. Seven concerns manufacturing insulation under the program in 1946 were located in six states -- North Carolina, New York, Connecticut, Wisconsin, Michigan, Texas and California. Payments were made at the rate of 9 cents per pound of insulation manufactured from date of allocation through June 30, 1946; and are to

be made at the rate of 7½ cents per pound of insulation manufactured from July 1, 1946 through June 30, 1947. Indemnity payments of \$315,000 were made under the 1946 program on 3.5 million pounds of cotton insulation and \$765,000 were made under the 1944 program on 8.5 million pounds of cotton insulation.

Automotive Batts

Short-staple, low-grade fibers derived mostly from the cotton plant but not lint cotton have for a long time been used in the manufacture of batts for motor car seat cushions and backs. An improved batt to be made from other raw materials, principally rubber, is now receiving the interest of automobile manufacturers. It is believed that by using lint cotton in whole or as a fortifier of other fibers of the cotton plant at least a substantial part of the automotive-batt market can be retained and the use of lint cotton can be encouraged. It is expected that approximately 60 thousand bales of cotton will be used by the end of March, 1947. Motor car batt manufacturers, with headquarters in five states, and 15 plants located in six states -- California, New York, Michigan, Illinois, Wisconsin, and Missouri -- hold applications to manufacture automotive batts under the program for fiscal year 1946. Payments are at the rate of 4 cents per pound of cotton used. Approximately 29,000,000 pounds of low-grade cotton are expected to be used in the manufacture of automotive batts under the fiscal year 1946 program, with total payments of \$1,160,000.

Cotton for Paper

Small trial projects during 1940 and 1941 indicated that lint cotton is adaptable for use in the manufacture of high-grade ledger and bond papers. The segment of the paper industry which in the past normally used certain types of rags and shirt cuttings as a raw material in the manufacture of such papers has for some time been experiencing difficulty in securing adequate quantities of suitable raw materials, and has recently turned to the use of lint cotton in efforts to solve its problems. Twenty-four concerns, located in five states -- Massachusetts, Ohio, Michigan, Wisconsin and Pennsylvania -- participated in the program in fiscal year 1946. Payment was made in connection with cotton used and was the amount by which the delivered cost of such cotton exceeded 8.5 cents per pound gross weight, but payment was limited to a maximum of 4 cents per pound. It is expected that 44.4 million pounds of low-grade cotton will be used in the manufacture of paper under the fiscal year 1946 program with maximum payments of approximately \$1,780,000. Concerns participating in the program have until June 30, 1947 to use cotton under applications approved during fiscal year 1946.

Project 4. Administration, Marketing Agreements and Orders, and
Other Authorized Activities

Administration of program activities involves the following:

Purchase Program: (a) Determining amounts and kinds of agricultural commodities that can be absorbed through non-commercial outlets; (b) formulating conditions of eligibility for recipients, establishing rates of distribution for each commodity; (c) actual purchasing of commodities on the basis of analyses of supply, demand, price, and condition of agricultural commodities.

Export Program: (a) Performing analyses of existing and potential supplies of commodities; (b) preparing dockets, issuing announcements, and developing procedures which govern eligibility for payments, rates of payment and operating details as they affect the participants.

Diversion Program: (a) Analyzing economic conditions to determine the type of diversion best suited to the commodity and whether the proposed diversion can be effected without disrupting existing market conditions.

In addition to purchase, diversion and export programs, the following authorized activities are financed from administrative funds available under this appropriation:

Marketing Facilities Functions: In many large consuming centers considerable sections of the population, do not have adequate quantities of many perishable foods, such as fruits and vegetables, to meet their needs, while at the same time there are supplies of these products in producing areas going to waste or being purchased by the Government because means are not available to bring them from the surplus areas to places where consumers may obtain them. This condition is often due to faulty market organization and lack of adequate facilities for the physical handling of the product. Many regions are perplexed with the problem of finding outlets for their commodities. Because of the inadequacies of marketing, producers have great difficulty in disposing of their crops while consumers are deprived of the products which they need. Wholesale markets for fruits and vegetables in many large cities have grown up without any coordinated plan.

In cooperation with and at the request of State agencies and farm groups, studies are made of concentration markets in producing areas and terminal markets in the larger metropolitan areas to determine what is wrong with existing facilities, to develop concrete plans and recommendations for the provision of satisfactory facilities and promote through such means as are available the construction or establishment of the desired market. Funds for the actual construction of facilities are provided through public or private agencies.

Public markets make excellent self-liquidating projects and if handled properly open up larger outlets for products of the farm, reduce the cost of distribution, bring about a more rapid and more orderly flow of products through the marketing system, and as a result of these activities increase returns to producers and improve the standard of living of the American people.

In Mississippi the appropriate State agencies, including the State Legislature, requested assistance in planning and building a satisfactory system of State markets. The initial market will be built in Jackson and after this market is constructed, attention will be given to such other facilities as may be needed in the State. As a result of recommendations from the Department, the Governor of Virginia established a corporation and the members of the board have been appointed to provide for market facilities in Richmond. Considerable additional work has been done during the year in Hartford, Connecticut. The site which was recommended by the Department for the market has been purchased and final plans for the facility are now being drawn up. New studies during the year have been undertaken in Columbus, Ohio; New Haven, Connecticut; Tampa, Florida; and a number of other localities.

Administration of Agricultural Marketing Agreement Act: This Act is designed to regulate, by means of marketing agreements, the flow of agricultural commodities to market in such a manner as to insure orderly and even distribution during the entire marketing season, and to maintain adequate returns to producers.

Marketing costs are relatively inflexible; packaging, freight, and similar charges are about the same per unit of produce marketed, regardless of the price the produce brings. When the price falls too low, the grower has little or nothing remaining after the costs are paid. When prices are too high, he is unable to sell the same volume of goods that he could sell if prices were reasonable.

Experience has demonstrated that with proper adjustment of shipments to demand, it is possible to market a greater quantity of a given product over a marketing season at a price fair to consumers yet more remunerative to growers than if the crop were "dumped" on the market without regulations and without regard to what the market can take at a given time. Technically trained marketing specialists plan and negotiate the marketing agreements, assist in establishing the operations and supervise the local administrative agents.

Milk Marketing Agreements: During the past year, 29 marketing agreement and order programs were in effect for fluid milk and one agreement and license for evaporated milk. Approximately 131,578 producers, producing almost 14 billion pounds of milk valued at 475 million dollars, were under the marketing agreement program for fluid milk. New orders were issued in four marketing areas: Columbus, Ohio; Dayton-Springfield, Ohio; Tri-State; and Minneapolis-St. Paul.

Twenty-four hearings were held and 2 were reopened to consider the issuance of orders in new areas or to amend existing orders. A promulgation hearing was held in Cleveland, Ohio, in November 1945 and in January 1946. At the close of the fiscal year plans had been made for holding a referendum to determine whether producers were in favor of the issuance of an order. In addition there were requests from producers in a number of markets for the Department to give consideration to the question of initiating action on order programs.

Twenty-eight petitions for administrative hearings were received from handlers in the Columbus, Ohio, marketing area, raising among other questions that of the validity of the order under the commerce clause. Two other petitions were received from handlers in the New York area, one claiming exemption from the order when not shipping to the New York area, and the other having to do with the matter of producer payments. Action is still pending on these petitions, as well as on some 20 petitions carried over from former years. Of the seven decisions made during the year, the petitioner's request was denied in five instances.

Four appeals were made by handlers for review by district courts, and one by a circuit court. The amount of pooled milk, the value of the milk, and the number of producers for each market under regulation, is shown in table III.

Fruit and Vegetable Agreements: Seventeen marketing agreement or order programs were in effect for fruits and vegetables as shown by table IV. Regulatory activities were undertaken during the year under only eight of these programs, since for many fruits and vegetables prices exceeded parity levels. The program on Colorado onions, which had been inactive, was terminated during the year, as was the agreement and order on hops, legislative authority for which expired September 1, 1945.

Marketing of Abundant Foods: In order to assist growers in alleviating surpluses and at the same time lessen the need for outright Government purchases to support prices, a program for promoting the public consumption of abundant crops is significant. Production goals are established for various farm products based on average expectations. It frequently happens, however, because of weather and other factors, that unexpectedly heavy yields result. It is then necessary to carry on merchandising campaigns of varying scope and intensity to assist marketing through normal commercial channels of trade.

The cooperation of the food advisory committees, distributors, and restaurant and hotel operators is continually enlisted to stimulate the consumption of special food items on a national or sectional basis. To implement this assistance, the cooperation of manufacturers, both industrial and food, are obtained and the public utilities, advertising services, and labor unions have contributed materially to advance this program. Monthly lists giving information of foods expected to be in relatively favorable supply for some weeks ahead are sent regularly to the trade in general, as well as to industrial feeders, school lunch operators and all food distribution advisory committees.

Table III

Estimated number of producers, estimated volume of pooled milk, and estimated total value of pooled milk at basic butterfat test, in various fluid milk markets under marketing agreement programs, fiscal year 1946

Market	: Basic : : butter- : : fat : : test :	Number: of : pro- : ducers:	Annual volume 1,000 pounds	Value of milk at basic test Dollars
Boston, Mass. (191-200 mile zone)	: 3.7 :	13,175:	1,249,380:	44,404,420
Chicago, Illinois (70-mile zone)	: 3.5 :	17,333:	2,621,736:	83,832,053
Cincinnati, Ohio	: 4.0 :	4,684:	287,166:	9,567,705
Clinton, Iowa	: 3.5 :	191:	13,237:	396,922
Columbus, Ohio 1/	: 4.0 :	1,986:	71,450:	2,545,603
Dayton-Springfield, Ohio 2/	: 4.0 :	2,489:	178,371:	6,427,983
Dubuque, Iowa	: 3.5 :	188:	25,253:	760,548
Duluth-Superior, Minnesota-Wisconsin	: 4.0 :	1,257:	83,725:	2,623,154
Fall River, Massachusetts	: 3.7 :	234:	29,320:	1,280,481
Fort Wayne, Indiana	: 4.0 :	788:	52,051:	1,780,260
Kansas City, Missouri-Kansas	: 3.8 :	1,957:	195,918:	6,936,227
LaPorte County, Indiana	: 3.8 :	190:	17,427:	595,199
Louisville, Kentucky	: 4.0 :	1,644:	179,193:	6,482,805
Lowell-Lawrence, Massachusetts	: 3.7 :	966:	77,461:	3,132,584
Minneapolis-St. Paul, Minnesota 3/	: 3.5 :	8,433:	578,422:	17,295,916
New Orleans, Louisiana (61-70 mile zo.):	: 4.0 :	1,943:	151,602:	5,631,894
New York, N. Y., (201-210 mile zone)	: 3.5 :	48,075:	5,687,592:	195,854,882
Omaha-Council Bluffs, Nebraska-Iowa	: 3.8 :	2,389:	129,431:	4,131,827
Philadelphia, Pennsylvania	: 4.0 :	8,829:	915,331:	36,643,072
Quad Cities, Illinois-Iowa	: 3.5 :	1,266:	104,025:	3,173,511
St. Joseph County, Indiana	: 4.0 :	627:	60,193:	2,154,977
St. Louis, Missouri	: 3.5 :	3,476:	351,200:	12,468,794
Sioux City, Iowa	: 3.5 :	494:	29,308:	917,036
Suburban Chicago, Ill. (70 mile zone)	:	:	:	:
Grade A	: 3.5 :	522:	74,506:	2,468,605
Grade B	: 3.5 :	2,560:	205,838:	6,526,454
Toledo, Ohio	: 3.5 :	2,125:	134,497:	4,537,338
Topeka, Kansas	: 4/ :	165:	18,030:	615,357
Tri-State, (Ky., Ohio, & W. Va.) 5/	:	:	:	:
Huntington district plants	: 3.5 :	502:	36,630:	1,330,801
Other than Huntington dist. plants	: 3.5 :	623:	45,317:	1,564,006
Washington, D. C.	: 4.0 :	1,558:	392,220:	15,839,969
Wichita, Kansas	: 3.8 :	394:	41,899:	1,549,405
Total	:	131,063:	14,037,729:	483,469,787

1/ Order effective February 1, 1946.

2/ Order effective July 1, 1945.

3/ Order effective November 3, 1945.

4/ Reported as butterfat and converted to 3.5 percent milk equivalent.

5/ Order effective August 1, 1945.

Compiled from reports of the market administrators.

Fruit and Vegetable Marketing Programs
in effect during Fiscal Year 1946

<u>Commodity and Area</u>	<u>Status of Program</u>
Bartlett Pears, Plums and Elberta Peaches - California	Operating <u>1/</u>
Buerre Hardy Pears - California	Inoperative
Fresh Peas and Cauliflower - Colorado	Operating
Fresh Prunes - Oregon and Washington	Inoperative
Grapefruit - California and Arizona	Operating
Lemons - California and Arizona	Operating
Oranges, Grapefruit and Tangerines - Florida	Operating
Oranges - California and Arizona	Operating
Onions - Colorado	Inoperative <u>2/</u>
Peaches - Colorado	Inoperative
Peaches - Georgia	Operating
Peaches - Utah	Inoperative
Potatoes - Idaho and Oregon; Colorado; Oregon and California	Inoperative
Potatoes - Michigan, Wisconsin, Minnesota, and North Dakota	Inoperative
Tokay grapes - California	Operating
Walnuts - California, Oregon and Washington	Inoperative
Winter Pears - California, Oregon and Washington	Inoperative

1/ Under an "operating" program, an Administrative committee has been appointed, budget approved, and, in some instances, regulations issued.

Under an "Inoperative" program a marketing agreement and order are in effect, but no activity is being carried on.

2/ Marketing agreement and order terminated, effective May 20, 1946.

Although it is difficult to obtain a precise measurement of the effects of most campaigns, it is known that this program so aided in marketing the unusually large 1946 peach crop that none of the \$1,500,000 earmarked for purchasing peaches to support growers' prices was needed. Extensive campaigns conducted on a national basis contributed to a substantial savings in the Iris Potato price support program during fiscal year 1946. Programs have also been conducted on poultry, beets, carrots, eggs, lettuce, desert grapefruit, spinach, and cabbage. During the year eight national, four regional, and four sectional abundant foods marketing programs were conducted.

Food Preservation: This program is designed to increase the utilization of locally produced fruits, vegetables and meats by encouraging food preservation for winter and early spring consumption; to expand outlets for agricultural commodities purchased under surplus-removal programs; to assist school lunch programs in obtaining an adequate year round supply of nutritional foods with the limited resources available.

There are approximately 6000 State and locally financed institutional and community food preservation centers in operation throughout the country which receive instructional and supervisory aid from the Department. These centers process surplus commodities donated to eleemosynary institutions and school lunch programs so that consumption can be spread over a period of many months. Community food preservation centers provide facilities both for preserving foods for use in school lunches and for food preservation by families in the community. The low consumption of fruits and vegetables in many areas during the winter and early spring months represents one of the most serious deficiencies in our national diet. The availability of food preservation centers has resulted in greatly increased consumption in fruits and vegetables throughout the year both in the home and in school lunch programs. It has made it possible for school lunch programs to provide more and better balanced lunches with the resources available.

Through negotiations with State Government officials and representatives of other Federal agencies in each state, there is being developed a coordinated program of community and institutional food preservation to provide a maximum of outlets for price-support commodities and a volume of local canned foods for the school lunch program. In Texas and Louisiana, for example, plans were made with the State Boards of Control for State-wide programs of canning for all institutions. The Department furnished plans and technical assistance for plants in both States which are to be used as models for all institutions in those States. In New York State floor plans and equipment lists were developed for 21 institutions. In South Carolina, the Department, working with the Vocational Education Division of the State Department of Education conducted 8 workshops in June of this year at which 150 teachers of vocational agriculture and home economics were given practical instructions in managing and operating food preservation centers. During the year 86 workshops were conducted to train supervisors of community canneries and 14 for institutional cannery personnel. At four of these workshops proper methods of preparing and packaging foods for quick freezing were also demonstrated.

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(e) National School Lunch Act

Objective: To improve the health and well-being of the Nation's children, and to provide increased assurance of a substantial market for agricultural production.

The Nutritional Problem: It has long been recognized that except in those schools operating lunchrooms, the majority of school children do not have an adequate noon meal. The typical lunch box contains one or two sandwiches and a piece of fruit or pastry - a far cry from the recommended lunch for a growing child, which nutritionists say should provide from one-third to one-half the day's nutritive requirements. A lunch purchased by the child in an unsupervised lunchroom or from a food store is generally no more satisfactory from a nutritional point of view. The children from families with limited means, who may not even have an adequate breakfast or dinner, are obviously further handicapped if their luncheons are inadequate. It is well-recognized by educators that it is difficult to teach a hungry child. Consequently, it is of great value to the nation that there exists a program designed to assist the schools in serving a complete lunch at a price children can afford to pay.

A striking example of the poor diets of school children, even in the prewar years, is shown by a survey of the diets of 7,363 Chicago school children as reported in the Journal of the American Dietetic Association, March, 1943. The children represented about 4,000 families of different racial groups, and all social and economic strata. The diets of 72% of these children were found to be inferior to an arbitrary standard considerably lower than the minimum diet recommended by the National Research Council. A number of other studies and independent observations verify that diets of a large percentage of our children are below minimum diet standards.

The Agricultural Problem: In the past several years the School Lunch Program has been of great value to agriculture by providing an outlet for surplus foodstuffs and by encouraging the consumption of nutritious foods not generally found in low-income diets.

Since the beginning of Federal assistance the School Lunch Program has provided a valuable outlet for hundreds of millions of pounds of apples, citrus fruits, eggs, butter, and fresh vegetables which were purchased by the Federal government to support the price of these commodities. Although at the present time there is no general surplus of food, there are always some perishable commodities which would be wasted or sold at a loss to the farmers if price-support purchases were not made. Further, agricultural economists foresee a possibility of large surpluses of several commodities in the near future. The Department of Agriculture, under the Steagall Amendment (55 Stat. 498, 56 Stat. 768) is charged with supporting the prices of many agricultural commodities at 90% of parity.

The School Lunch Program is an important device not only as a spot outlet for agricultural surpluses, but also for developing future markets, through the early introduction of proper eating habits. For instance, reports show that institution of the "penny milk program" frequently

raised milk consumption in the school from several hundred to several thousand percent, without reducing home consumption. In fact, this program has frequently increased home consumption. This means that children are getting a more adequate supply of the most valuable food children can have; it also has broad implications for dairy farmers in that the milk drinking habit is instilled into thousands of youngsters who might otherwise never have developed a taste for milk. The School Lunch Program has introduced thousands of children to oranges and grapefruit, carrots, wholewheat bread, dairy products, and numerous other foods frequently absent from the diets of low-income families.

Under Section 6 of the National School Lunch Act, the Department is authorized to make purchases of foodstuffs for distribution to School Lunch programs. Most of the funds spent under this authorization will be used to furnish foods which are customarily lacking in the area of distribution. Thus, dried or evaporated milk will be distributed in milk-deficient areas and citrus and tomato juices in Vitamin C-deficient areas. This distribution will serve the double purpose of strengthening the nutritive value of the lunch, and creating new demands for agricultural commodities. It is also expected that large purchases of fresh fruits and vegetables will be made at the peak of the harvest season, for distribution to canning centers where they will be processed for the School Lunch Program. This will not only assure a steady supply of fruits and vegetables to schools in the area during the winter season, but should have a steadying effect on local produce markets during the flush season in those areas where price-support operations, as such, are not warranted.

The Financial Problem: Although employment and national income are high, the increased cost of food and labor have made it difficult for schools in low-income districts to serve a satisfactory lunch at a price the children can afford to pay. In fact, many schools are requesting that the rate of assistance from the Department of Agriculture be increased, lest higher prices to the children force some of the schools out of the program. At the same time more and more schools are becoming aware of the importance of school lunch and are applying for Federal aid. As early as October, 1946, it was necessary for a number of States to curtail operations because all funds apportioned for their program had been obligated.

The appropriation of \$10,000,000 for assistance in the purchase of equipment has increased the demand for food assistance funds both by making it possible for new schools to come into the program and for participating schools to serve a more nutritious type of lunch. Table I shows the number, quality and average cost of meals served during 1944-1946 and estimates for 1947 as well as the number of children participating and the total cost to the Department.

New Act Changes Operations: The National School Lunch Act (Pub. Law 396, 79th Congress, 2nd Session, approved June 4, 1946) places the School Lunch Program on a permanent basis. In general, individual programs will operate very much as they have in the past. However, there are certain changes in the methods which the Department and the state and local agencies will use in carrying out the program. The most important of these are outlined as follows:

Grants in Aid to State Agencies: Not less than 75% of the funds appropriated for food assistance and the \$10,000,000 annual non-food assistance appropriation are granted to State educational agencies for the purposes of reimbursing schools for part of their expenditures for school lunches. The grants are made in accordance with an agreement outlining the responsibilities of the State agency and the Department of Agriculture. Eligible schools operating a nonprofit program meeting standards prescribed by the Department may be reimbursed for their food costs up to a maximum amount per lunch served, and for equipment needed to operate the program.

Grant-in-aid funds are apportioned among the States in accordance with a formula giving equal weight to the number of school children in the State, and the need for assistance as indicated by the State's relative per capita income. Funds granted by the Department must be matched dollar for dollar from sources within the State until 1951, at which time an increasing scale of local contributions will begin to bring the program more into a position where the States and localities will bear the major responsibility for financing the program.

Direct Purchase and Distribution of Food: The Act authorized the use of up to 25% of the funds for food assistance for the purchase of agricultural commodities and their distribution to schools. Under this authorization, selected foods are purchased and distributed to eligible schools.

The National School Lunch Act also authorized the distribution to schools participating in the program of those commodities purchased under authority of Section 32 of the Agricultural Adjustment Act of 1935 (49 Stat. 774).

Non-Food Assistance: Under the Act \$10,000,000 will be available yearly for non-food expenditure by schools. This will make it possible for many schools formerly unable to participate for lack of equipment to come into the program, and it will enable all schools to carry out better the health and nutritional standards recommended for the most effective operation of a lunch program.

Operation in the Schools: Participating schools are required by their agreement with the State agency to serve a meal meeting minimum nutritional standards prescribed by the Secretary. The luncheon must be offered to all children attending the school and must be served free or at reduced cost to children unable to pay the full cost of the luncheon. Each school also agrees to utilize in its program such commodities as may be designated by the Secretary as being in abundance, either locally or in the school area. The State agency, upon receipt of a monthly report and claim, reimburses the school for its expenditures up to the prescribed amount.

Review and Audit of Programs: Records of State agencies administering the program and of individual schools are open to investigation by Department of Agriculture auditors at all times. Spot checks are made regularly to assure that provisions of the Act, agreements with the Department, and regulations governing the use of funds are being observed. When violations are reported measures are taken to bring the violator into conformance; repeated non-observance of the regulations or violations

of a serious nature may result in discontinuance of the program and a demand for the return of funds paid to the violator.

State Participation: Under the National School Lunch Act, the State Educational agency has the primary responsibility for administration of the program within the State. While the Department of Agriculture has always worked closely with State Departments of Education, and has had agreements covering the operation of the program with these agencies in most States, the new Act has greatly increased the interest of the States in the program.

To bring about more effective cooperation between the Federal government and the States, the Department of Agriculture has cooperated with the Council of State Governments in the drafting of proposed State legislation designed to implement the National School Lunch Act. It is expected that this legislation will be introduced in a number of State legislatures in 1947.

States Cooperate: During fiscal year 1946, agreements covering the general operation of the program were made with thirty-nine states and territories. While the amount of assistance given the program by State agencies varied from State to State, depending on the ability and desire of the agency to enter actively into the program, the contributions of these agencies were of great value.

In the fiscal year 1946, much emphasis was placed on the purchase by School Lunch Programs of foods which were abundant locally or nationally. By far the greater part of the assistance to schools was in the form of cash reimbursements or indemnity payments for a part of the food necessary in the preparation of lunches for children. In addition, the School Lunch Program has been able to use effectively large quantities of agricultural commodities made available from purchases under price support programs, by using them in fresh form or by processing them for consumption during the school year.

In fiscal year 1946, the School Lunch Program included approximately 35,791 schools and child care centers serving lunches to about 4,718,339 children. A total of \$51,292,142 was apportioned to the states and territories and used for indemnities in cash. Commodities valued at \$5,833,555 were distributed directly to schools and child care centers. The types, amounts (in pounds) and value of these commodities are reflected in Tables II, III, and IV.

New Activities: Under Section 6 of the National School Lunch Act, the Department of Agriculture is authorized to make direct purchases of agricultural commodities for distribution to School Lunch programs. The most significant of the new activities is the purchase of dried milk for distribution as a beverage in areas where dairy farming is not well established. A pilot plan to test children's acceptance of this new food and to develop new ways of presenting it, indicates that this distribution will be a very real contribution not only to the nutrition of the children of these areas, but also to the dairy industry generally.

Another activity developed under the National School Lunch Act is that of non-food assistance to School Lunch programs. It has long been recognized that a great many of the poorer schools were unable to start a lunch program because of the high initial cost of equipment. In spite of the shortage of many important items of equipment, the demands for assistance are sure to exceed available funds.

Discontinued Activities: By virtue of elimination of the authority to furnish assistance to lunch programs in child care centers (playgrounds, summer camps, boys' and girls' clubs, community houses, etc.,) school lunch participation in connection with these activities have been discontinued in all areas except Puerto Rico. Specific authority is set forth in the School Lunch Act for child care center lunch programs in Puerto Rico.

TABLE I

MEAL TYPES AND CASH FOOD COST, SCHOOL LUNCH PROGRAM
(Fiscal Years 1944 - 1947)

Fiscal Year	Type of Meal	Number of Children	Number of Meals	Percentage Type A and Other	Average Cost Per Meal to U.S.D.A.	U.S.D.A. Cost
1944	2/ A	1,038,548	178,631,421	37.6	\$ 0.090	\$ 16,076,827
	All Other	2,723,548	296,681,258	62.4	.035	10,508,593
	Total	3,762,096	475,312,679	100.0	.056	26,585,420
1945	3/ A	1,995,582	320,295,328	46.7	.090	28,826,580
	All Other	2,277,613	365,348,335	53.3	.036	13,221,086
	Total	4,273,195	685,643,663	100.0	.061	42,047,666
1946	3/ A	2,565,848	429,601,388	53.4	.090	38,664,125
	All Other	2,152,491	375,296,419	46.6	.034	12,628,017
	Total	4,718,339	804,897,807	100.0	.064	51,292,142
1947 (Estimated)	A	3,200,000	506,138,000	57.1	.086	43,527,870
	All Other	2,365,000	380,216,000	42.9	.033	12,547,130
	Total	5,565,000	886,354,000	100.0	.063	56,075,000

1/ Type A meal is complete meal with milk. All Other includes Type B (less nutritious meals) and Type C (milk only).

2/ Figures on number of meals for Continental United States only.

3/ Figures on number of meals for Continental United States, Hawaii and Alaska.

4/ "Total" participation does not include children participating in programs receiving only direct distribution commodities, since these programs do not report meal type information. Such programs served the following number of children: in 1944: 1,714,145; in 1945: 2,382,263; in 1946: 2,052,502. The estimated number of children in such programs in 1947 is 2,200,000.

Quantity and Cost of Commodities Distributed to
Schools and Child Care Centers
Fiscal Year 1946

<u>State</u>	<u>Quantity Distributed</u> <u>Pounds</u>	<u>USDA</u> <u>Contribution</u>
		<u>Dollars</u>
Alabama	1,366,426	\$ 96,162
Arizona	117,900	2,346
Arkansas	4,365,268	146,366
California	1,994,863	180,782
Colorado	792,269	46,730
Connecticut	101,863	28,735
Delaware	88,798	17,432
Florida	1,461,749	104,761
Georgia	1,576,287	175,647
Idaho	152,103	29,918
Illinois	3,714,191	168,109
Indiana	1,352,036	68,582
Iowa	16,896	5,762
Kansas	1,550,611	79,945
Kentucky	2,193,135	56,066
Louisiana	2,133,756	82,680
Maine	258,696	24,321
Maryland	366,630	27,277
Massachusetts	761,503	111,283
Michigan	215,801	24,644
Minnesota	621,666	63,079
Mississippi	1,570,538	66,180
Missouri	2,373,334	103,759
Montana	120,494	22,950
Nebraska	264,209	13,881
Nevada	102,406	12,886
New Hampshire	60,402	5,363
New Jersey	776,216	77,351
New Mexico	537,815	54,805
New York	1,498,824	153,292
North Carolina	3,206,071	152,333
North Dakota	167,500	20,050
Ohio	2,566,306	120,244
Oklahoma	3,863,425	150,686
Oregon	279,456	25,761
Pennsylvania	368,444	68,207
Rhode Island	285,841	33,532
South Carolina	3,010,903	208,572
South Dakota	215,909	14,224
Tennessee	3,163,385	94,580
Texas	5,443,004	152,817
Utah	551,520	49,247
Vermont	246,897	36,818
Virginia	383,040	37,144
Washington	391,773	51,127
West Virginia	1,747,228	95,380
Wisconsin	370,707	52,230
Wyoming	285,515	33,818
Hawaii	172,376	17,188
Caribbean Area	17,396,364	2,368,503
Total	76,622,349	5,833,555

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TABLE III

National School-Lunch Program
Quantity and Cost of USDA Commodities -
Distributed to School Lunch Programs - Fiscal Year 1946

Commodity Group and Item	Quantity Pounds	USDA Cost (Dollars)
<u>Dairy and Poultry</u>		
Dried Eggs	9,228	11,996
Frozen Eggs	8,430	3,119
Evaporated Milk	10,410,522	1,198,279
Total	10,428,180	1,213,394
<u>Meat & Meat Products</u>		
Fat Backs	1,800	261
Chopped Ham	278,982	99,480
Corned Beef Hash	316,181	90,539
Pork Luncheon Meat	159,529	56,211
Pork Sausage Meat	157,752	45,028
Vienna Sausage	672,679	226,191
Meat & Vegetable Stew	55,634	15,577
Canned Beef Stew	44,989	12,597
Total	1,687,546	545,884
<u>Cereals & Flour</u>		
Corn Meal	119,937	4,242
Wheat Flour	199,603	7,361
Concentrated Oat Meal	79,972	11,204
Native Rice	49,400	3,735
Total	448,912	26,542
<u>Fruits</u>		
Apples	1,374,833	63,961
Orange Juice	2,417,125	824,244
Dried Prunes	649,835	103,941
Canned Pineapple	2,154,421	232,896
Total	6,596,214	1,225,042
<u>Vegetables</u>		
Dry Beans	716,693	60,355
Canned Beans	2,741,555	292,205
Fresh Beans	760,764	39,408
Canned Beets	1,902,369	108,624
Fresh Beets	694,828	11,187
Fresh Cabbage	4,183,525	77,356
Canned Carrots	2,256,569	182,594
Fresh Carrots	369,109	6,601
Sweet Potatoes	550,261	15,407
White Potatoes	39,170,560	781,411
Fresh Spinach	218,317	9,918

2 - National School-Lunch Program

Commodity Group and Item	Quantity Pounds	USDA COST (Dollars)
<u>Vegetables Cont.</u>		
Canned Tomatoes	808,998	77,439
Canned Tomato Flakes	1,338,534	803,092
Onions	30,229	837
Soya Beans	297,156	26,012
Total	56,039,467	2,492,446
<u>Fats & Oils</u>		
Oleomargarine	531,470	86,496
Vegetable Shortening	593,608	130,698
Total	1,125,078	217,194
<u>Miscellaneous</u>		
Dehy-chicken soup	197,454	98,725
Canned Tomato Paste	99,493	14,323
Total	296,952	113,053
GRAND TOTAL	76,622,349	5,833,555

TABLE 1V

Participation in Community School Lunch Programs Receiving USDA Assistance
and Value of USDA Contribution by States
July 1, 1945 - June 30, 1946

State	Programs Receiving Indemnity Payments				Programs Receiving Direct Distribution Commodities				Total			
	Schools & Child Care Centers a/	Children Participating a/	Meals Served Free Daily a/	USDA Contribution b/	Schools & Child Care Centers a/	Children Participating a/	USDA Contribution b/	Schools & Child Care Centers b/	Children Participating b/	USDA Contribution c/		
	number	number	dollars	dollars	number	number	dollars	number	number	dollars		dollars
Alabama	1,004	147,843	21,875	1,900,792	885	173,528	96,162	1,004	147,843	1,996,954		
Arizona	144	28,083	2,160	307,630	d/	d/	2,346	144	28,083	309,796		
Arkansas	752	98,398	10,648	1,215,018	794	132,450	146,366	973	191,603	1,361,384		
California	1,029	163,627	10,323	2,001,916	721	242,743	180,782	1,538	371,112	2,182,698		
Colorado	253	28,594	1,552	334,359	205	27,208	46,730	274	35,275	381,089		
Connecticut	232	36,775	1,556	298,335	71	15,743	28,735	303	52,518	327,070		
Delaware	80	13,719	1,259	190,268	49	25,902	17,432	81	13,824	207,700		
District of Columbia	84	12,917	347	54,011	-	-	-	84	12,917	54,011		
Florida	675	87,894	9,652	1,099,052	725	143,220	104,761	1,297	214,093	1,203,813		
Georgia	1,298	202,228	20,214	2,612,228	2,981	414,321	175,647	3,445	475,050	2,787,875		
Idaho	185	21,590	1,252	249,301	144	24,177	29,919	222	27,838	279,219		
Illinois	1,703	259,233	111,659	2,545,483	367	316,256	168,109	1,916	559,623	2,713,592		
Indiana	725	100,240	6,013	1,104,676	185	59,316	68,582	781	137,550	1,173,258		
Iowa	660	81,156	5,388	849,651	19	3,515	5,762	660	81,156	855,413		
Kansas	458	35,078	3,020	461,841	250	24,927	79,945	481	37,262	541,786		
Kentucky	549	78,619	11,023	1,329,697	449	46,529	56,066	551	70,717	1,385,763		
Louisiana	1,215	142,570	19,290	1,789,424	493	81,220	82,680	1,299	156,235	1,872,104		
Maine	323	29,771	1,834	236,155	d/	d/	24,321	323	29,771	260,476		
Maryland	233	37,087	6,635	337,574	d/	d/	27,277	232	37,087	364,851		
Massachusetts	1,406	182,634	4,110	987,904	49	17,643	111,283	1,417	186,331	1,099,187		
Michigan	1,119	190,406	13,598	1,633,372	47	6,858	24,644	1,149	195,336	1,658,016		
Minnesota	950	114,680	12,834	1,122,114	356	69,746	63,079	1,004	142,504	1,185,193		
Mississippi	740	87,472	8,748	1,174,055	873	106,212	66,180	1,175	140,102	1,240,235		
Missouri	1,005	115,157	12,532	1,438,037	298	69,645	103,759	1,060	127,905	1,541,796		
Montana	126	13,790	1,883	170,287	3	750	22,950	129	14,540	193,237		
Nebraska	347	30,632	3,038	242,437	50	6,173	13,881	361	32,428	256,318		
Nevada	35	3,458	509	47,639	19	2,917	12,886	54	6,375	60,525		
New Hampshire	223	17,096	1,308	110,428	19	5,034	5,363	239	18,177	115,791		
New Jersey	812	107,146	1,667	908,838	236	36,438	77,351	975	135,160	986,189		
New Mexico	191	19,673	4,634	217,067	120	13,114	54,805	198	21,511	271,372		
New York	2,288	426,586	51,512	3,065,585	136	75,358	153,292	2,353	487,990	4,010,877		
North Carolina	973	215,017	17,590	2,805,066	1,223	311,744	152,333	1,541	382,795	2,957,399		
North Dakota	400	18,382	5,749	149,170	110	12,159	20,050	400	18,342	169,220		
Ohio	1,079	186,800	14,396	2,149,744	441	82,475	120,244	1,214	222,555	2,269,988		
Oklahoma	1,270	96,640	14,811	1,267,324	1,129	96,864	150,686	1,510	125,158	1,418,010		
Oregon	360	41,613	3,008	459,103	196	47,966	25,761	484	80,447	484,864		
Pennsylvania	1,105	127,872	10,573	1,090,234	13	5,289	68,207	1,107	128,556	1,158,441		
Rhode Island	193	24,283	659	168,685	55	12,292	33,532	201	26,203	202,217		
South Carolina	1,609	169,620	24,592	1,920,217	757	82,722	208,572	1,609	169,620	2,128,789		
South Dakota	180	12,908	2,767	184,286	d/	d/	14,224	180	12,908	198,510		
Tennessee	1,311	152,974	15,762	2,146,693	1,022	111,590	94,580	1,549	166,437	2,241,273		
Texas	2,297	251,423	25,101	3,391,290	500	120,478	152,817	2,519	305,193	3,544,115		
Utah	242	40,282	1,370	304,021	243	50,320	49,247	242	40,282	353,268		
Vermont	138	11,654	1,996	91,473	728	51,182	36,818	866	62,836	128,291		
Virginia	721	101,906	7,889	1,179,070	250	47,736	37,144	721	101,906	1,216,214		
Washington	607	79,927	3,923	779,256	398	187,548	51,127	757	232,643	830,383		
West Virginia	1,117	83,399	14,326	1,022,184	1,083	75,053	95,380	1,263	89,351	1,117,564		
Wisconsin	1,081	115,891	9,896	904,712	293	39,781	52,230	1,181	135,789	956,942		
Wyoming	111	11,002	575	147,114	76	10,655	33,818	111	11,002	180,932		
Alaska	5	934	385	11,126	-	-	-	5	934	11,126		
Hawaii	148	60,760	3,548	286,192	d/	d/	17,188	148	60,760	303,380		
Caribbean Area	-	-	-	-	1,789	201,168	2,368,503	1,789	201,168	2,368,503		
Total	35,791	4,718,339	540,989	51,292,142	20,550	3,687,965	5,833,555	45,119	6,770,841	57,125,697		

a/ Participation data are for April, 1946, the month when total participation was at its peak.

b/ Includes 11,198 schools with a participation of 1,633,925 children and 24 child care centers with a participation of 1,538 children who applied for and received both indemnity payments and direct donations of USDA commodities.

c/ Includes indemnity payments and the value of Direct Distribution commodities.

d/ No distribution of commodities reported for the month of April.

Marketing Services(f) Market News Service

Objective: To enable farmers to take advantage of the best possible market price for agricultural products and to facilitate orderly marketing; the market news service reports on supplies and prices of the most important farm products in many of the leading markets.

Need for Accurate and Impartial Market Data: Before the Federal market news service was established, only a relatively few producers could get needed information in time to be of practical value -- if they could get it at all. Too frequently the information that did reach them was colored to the advantage of persons seeking to profit by it.

A - Market News service aids farmers - With farm production valued in excess of 25 billion dollars annually, accurate and unbiased market information is a practical necessity. Without it, producers, buyers and sellers of agricultural commodities cannot plan operations to yield best returns for their efforts and investments.

Market News keeps shippers informed of market demand, thus eliminating waste and loss, and plays an important part in the effective distribution of agricultural products.

Strong commercial organizations no longer have monopoly of market information available only through their far-flung trade connections. The distribution of information by the Federal Government discourages the dissemination of fictitious and misleading market information. This gives producers who supply areas for which market news is available equal opportunities.

B - Market News used for marketing research - The official record of trading activities provides a continuous story for use by marketing specialists and economists in making studies and analyses of production, demand, price, and distribution. It aids economic research in improving marketing methods. In addition, the official market news record supplies background information required by various Government agencies, and persons and organizations outside of Government; in carrying out programs dealing with the marketing and distribution of agricultural products.

C - Demand for service continues to grow - Market news service was started in 1915 as a result of interest and demand expressed for it. The service has grown tremendously in both popular demand and acceptance. Market news is now nationwide. The time and space given to market information by radio stations, press services and newspapers are proof of the public interest in the service. Most newspapers - particularly in farm areas - carry market news as a regular feature. The number of radio stations broadcasting such reports was more than 500 last year - well over half the radio stations in the country. A number of stations supply facilities that enable the reports to broadcast direct from the market.

Method of Collecting and Disseminating Market Data:

A - Market Information collected during trading hours - Reporters who secure the information which goes into market reports interview buyers and sellers during trading hours and inspect records made available by these trade interests. They observe actual transactions and make an appraisal of the quality, grade, and condition of the commodities since these are important factors in determining whether the established prices are actually higher, lower, or unchanged from previous trading periods.

In addition, information on shipments from producing centers and arrivals at terminal markets is received from railroads and boat lines. Reports of truck unloads at certain large cities and warehousemen's reports of stocks in storage are collected. Numerous contacts with other groups are made for essential information.

B - Reports go to public by radio, press, telegraph, mail, telephone and bulletin board - Information received at any one market is quickly made available to the public by means of radio, press, telephone, mail and bulletin boards. It is further distributed widely over a leased wire system of about 8,700 miles, and commercial telegraph wires to all important trading centers, through trade and farm publications, commercial and financial institutions and other agencies. Daily market reports are mailed to thousands of interested persons on request.

C - Cooperative agreements expand market news coverage within State - Cooperative agreements are entered into with State Departments of Agriculture in order to obtain local market news coverage within the State. Each agreement specifies the services to be rendered. Contributions of cooperating states under such agreements make possible a more expanded program than could be conducted with only a Federal appropriation. Table I attached shows the states cooperating in market news reporting.

Volume and Extent of Market News Service: Daily market news reports are issued in 42 large marketing centers and about 40 temporary offices located in the major producing and distributing points. The reports cover the movement, market supplies, quality, and price trends and quotations on livestock, meats, wool, fruits, vegetables, dairy and poultry products, grain, hay, seeds, feedstuffs, rice, hops, beans, cottonseed, and other products.

In 1946 there were more than 850,000 broadcasts of market information over 500 radio stations. All large press wire services in the country carry some of the reports, and 40 metropolitan newspapers, having a total circulation of 11,000,000, publish them regularly. More than 19,000,000 mimeographed reports were distributed last year to persons requesting them. Table II attached reflects this activity by commodity group. The market reporting program is conducted on a nation-wide scale under the following projects or commodity groups:

1. Market News on Livestock, Meats and Wool.
2. Market News on Fruits and Vegetables.
3. Market News on Dairy and Poultry Products.
4. Market News on Grain Products.
5. Market News on Cottonseed.

The attached map (Table III) shows by commodity group the permanent market news offices, indicating the markets where service is considered to be adequate and markets where partial service now furnished should be expanded.

The following examples of recent accomplishments are cited to show progress by commodity group:

1. Market News on livestock, meats and wool:

New work authorized at Billings, Montana and Des Moines, Iowa - Market News reports were started in two important areas in 1946:

(a) A new office was opened at Billings, Montana, inaugurating a reporting service covering livestock marketings (largely cattle and sheep) at public and auction markets. At the request of the cattle and sheep producers of Montana, Idaho and Wyoming, Congress increased the 1946 appropriation \$8,700 for this office. Livestock accounts for at least 50 percent of total cash farm income in this area; (b) Reports on direct sales of sheep and lambs to packers were started at Des Moines, Iowa, similar to the hog marketing reports issued regularly. Through a cooperative agreement with the State of Iowa, it was possible to add this service without increasing Federal costs.

2. Market news on fruits and vegetables:

A. New work undertaken at Lakeland, Florida - In 1946, Congress increased the appropriation \$1,700 for one-half of the cost of special Florida citrus reports to be issued in cooperation with the Florida State Marketing Bureau. Such reports were prepared and issued at Lakeland, Florida, throughout the shipping season for the 1945-1946 citrus crop. These reports come under three general classifications -- grapefruit, oranges and tangerines. The reports are used by shippers and sales agencies in the proper distribution of the citrus crop, which totalled 75,000 cars during the 1945-1946 season.

B. New Seasonal Offices operated at Grand Junction, Colorado; Spartanburg, South Carolina; Grand Forks, North Dakota; and Belle Glade, Florida - Seasonal offices were operated for the first time at (1) Grand Junction, Colorado, and at Spartanburg, South Carolina, to cover marketing of the peach crop in these sections; and (2) Grand Forks, North Dakota (not operated since 1929) covering the marketing season for Red River Valley potatoes. The period of operation of the Belle Glade, Florida, vegetable office was made continuous from November 1, to May 17. Previously it had operated from about November 1 to December 31, and from March 15 to May 15.

C. Carrier reports give timely market information - A daily telegraphic report is sent to Washington by each railroad division, express division, or boat line originating shipments of fruits and vegetables during the previous 24 hours (midnight to midnight), giving States and districts of origin. This information is consolidated and released over the Market News leased wire network, and by commercial telegraph about 9:00 A.M. each business day. During the 1945 calendar year 1,010,080 cars were reported.

3. Market news on dairy and poultry products:

Additional reporting information - It was possible with available funds and personnel to make the following additions to the reports during 1946:

<u>Office</u>	<u>Information Added</u>
Boston	Daily prices of ice-packed and dry packed dressed New England poultry. Weekly prices of non-fat dry milk solids, dried whey, frozen cream, and plastic cream.
New York	Weekly prices on frozen and dried eggs.
Chicago	Weekly prices on frozen eggs and dressed poultry.
Los Angeles	Weekly dressed poultry prices.
Seattle	Live poultry price reports put on daily basis (formerly twice weekly.)

4. Market news on grain products:

Scope of Current Work - During the fiscal year 1946, the market news information on grain, feed, seed, hogs and related commodities having a market value of 6.5 billion dollars was compiled, analyzed, and disseminated to the industry.

The Washington Office compiled and analyzed domestic crop and market information and obtained through official and trade sources information from countries important as markets for American grain or where United States growers face foreign competition in world markets. This material was incorporated with that obtained locally by the 7 permanent field offices and from the 27 commercial correspondents. Basic statistical material required for appraisal of market conditions was prepared and released to farmers and feeders in special reports.

5. Market news on cottonseed:

Reports compiled and mailed from 3 offices - Cottonseed production in this country amounts to about 5 million tons annually, valued at about \$250 millions. The movement of this crop to oil mills is reported from three central points in the Cotton Belt, - Atlanta, Dallas, and Memphis. Throughout the crushing season reports are issued weekly in the form of mimeographed reviews. These reports show farmers what their cotton seed is worth by grade, and guide ginner and oil mill operators in buying and selling seed. Last year the reports were essential to the effective operation of the Cottonseed Price Support Program.

6. Cold Storage Report:

A. Provides essential data on cold storage warehouses in the United States - The Cold Storage Report furnishes data on the total quantity of each kind of food stored in refrigerated warehouses; shows the capacity of refrigerated warehouses by type of warehouse, temperature range and by States; and gives by type the amount of space occupied and unoccupied throughout the country. This information is obtained regularly by voluntary reports from practically every operator of a cold storage warehouse in the country.

B. Eighty-eight products now covered - During the past year, six new commodities were added to the report making a total of eighty-eight products covered. Special features recently added to the report include (1) an analytical table giving a summary of "first of the month holdings of products", (2) a bar chart representing total weight of commodities in storage, (3) a table showing warehouse occupancy in key warehousing centers, (4) holdings of fish, and (5) commodity holdings of all Government agencies by regions.

Special reports are issued from time to time to give advance information as to the adequacy of storage space for preserving seasonal products such as apples or eggs. These reports are the only source of such information, and are widely used by warehousemen, processors, dealers, farm organizations, bankers, research agencies, and various agencies of the Government.

In addition to the normal uses of the information obtained through this service, during the past periods of food and material shortages the information has been widely used by agencies of Government for: (1) determining where expansion of warehouse space is necessary, (2) planning and carrying out programs to get the most effective use of cold storage space, and (3) making available to the public information as to where space can be found for commodities that would otherwise spoil.

TABLE I

Market News Service
Federal-State Cooperative Agreements, Fiscal Year 1946

Cooperating State	Commodity Group			
	Livestock, Meats: and wool	Fruits and: Vegetables:	Dairy and: Poultry	Grains & Food Products
Alabama	X	X	X	X <u>1/</u>
Arizona		X		
California	X	X	X	X
Florida	X	X		
Illinois		X		
Iowa	X <u>1/</u>		X <u>1/</u>	X <u>1/</u>
Louisiana		X <u>2/</u>		
Maine		X		
Maryland	X	X		
Michigan		X	X	
Minnesota	X	X		
New Jersey		X		
New York		X	X	
North Carolina		X		X <u>1/</u>
Ohio		X		X <u>1/</u>
Oklahoma		X		
Oregon				X
Pennsylvania		X		
South Carolina		X		
Tennessee	X			
Texas	X			
Utah	X			
Virginia		X	X	
Washington		X	X	
Wisconsin		X		
Total States	9	20	7	6
Territory of Hawaii		X		

1/ Begun during fiscal year 1946. The Iowa Agreement is a further step in reporting Dairy and Poultry prices at country shipping points, a type of reporting that gives producers current information on prices at points close to where their products are first sold.

2/ During fiscal year 1946, a new agreement provided for issuance of special sweet potato reports by the New Orleans Office.

TABLE II

Market News Activity by Commodity Group
Fiscal Year 1946

Commodity Group	: Number of Field Offices	: Number of Buyers and Sellers Interviewed	: Radio Dissemination: Number of Stations	: Mimeographed Releases to Press, Radio, Individuals & Other Groups
Livestock, Meats & Wool	L&M 30 Wool 1 31	6,147	485	330,640 : 5,000,000
Fruit & Vegetable	Permanent 21 Seasonal 41 (about)	1,310 800	500 (Included above)	216,844 : 6,521,000 1,951,225
Dairy & Poultry products	17	2,121	297	143,942 : 4,640,000
Grain Products...	7 1/	111	242	168,831 : 909,239
Cottonseed	3 2/	30	--	-- : 186,417
Cold Storage	None 3/	--	--	-- : 31,200

1/ Includes 27 commercial correspondents under special agreement who furnish market information regularly where no field office is maintained.

2/ During marketing season, approximately August 15 to January 15.

3/ Information supplied by questionnaire.

(g) Market Inspection of Farm Products

Objective: To provide an impartial inspection and grading service for farm products, based on Federal standards as to class, quality and condition of the commodities.

The Problem and Need for Federal Inspection and Grading Service: The orderly and equitable marketing of farm products requires accurate and impartial description of the farm products in order that buyer and seller alike may know whether specifications are being met, and that the producer may obtain the best financial returns for his product. Such an unbiased description of products is represented by the federal inspection certificate which has become the common language in marketing of farm products. The certificate helps to settle disputes arising among buyers, sellers, carriers and others.

The premiums and discounts obtained for federal grades in the prices paid producers encourage wider adoption of federal inspection service. Grading increases farm income by encouraging the production of higher quality products. Further, it enables farmers and dealers to move to each market or outlet the grade of product desired.

With the increase in food production during recent years, demand for federal inspection service has expanded to such an extent that this service is now considered a definite part of the system for market-farm products. Growers, processors, wholesalers, brokers, chain stores and bankers have used the inspection service more extensively in recent years than during any previous period since the service started. This increased demand indicates a greater interest in improving the quality of their products and a wider recognition on the part of consumers of the value of graded products.

Method of Operation: Inspection service is provided upon request at a nominal fee. Collections for the service are used to pay a large part of the expenses of the inspection force. The majority of the work is done under cooperative agreements with States or private agencies. Certificates are issued by inspectors who are either federally employed or federally licensed. Licensees are trained and supervised by federal supervisors who are responsible for the uniform interpretation and application of United States Standards.

The work of inspection, or grading and certification is conducted along five commodity lines, as follows:

1. Fresh and processed fruits and vegetables.
2. Dairy and poultry products.
3. Rice, hay, beans, peas, seed and hops.
4. Meats.
5. Cottonseed.

Most Inspections are made at Receiving Markets, Shipping Points, and Processing Plants:

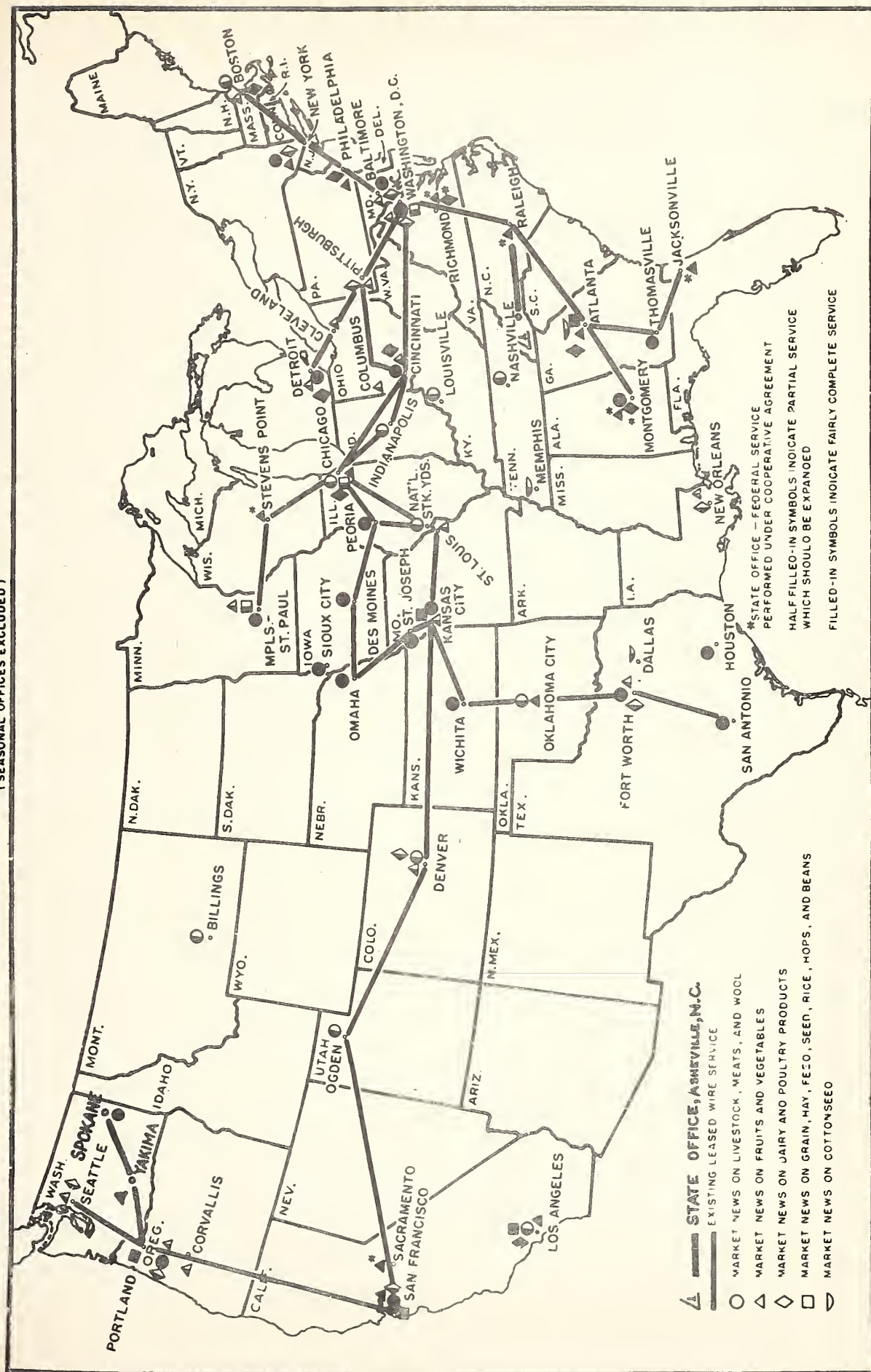
Fruit and vegetable inspectors examine carloads at receiving markets and shipping points for commercial, public and private agencies;

TABLE III

MARKET NEWS SERVICE

PERMANENT OFFICES

(SEASONAL OFFICES EXCLUDED)



special type of service is rendered at canning plants and processing plants for frozen, dried or dehydrated products.

Dairy and poultry products are inspected and graded for government agencies or commercial firms at terminal markets, public warehouses, and processing plants.

Grain products are inspected at terminal markets and in producing areas for hay, milled rice, beans, seed and hops.

Meat grading at packing establishments involves grade identification by applying official stamp on fresh and frozen meat, cured or manufactured meat and meat products.

Cottonseed grades are based on a chemical analysis of samples drawn at cottonseed crushing mills.

Revenue: In addition to the earnings that are used to defray the cost of inspections, the sum deposited annually to the "miscellaneous receipts" account of the Treasury amounts to about 90 percent of this appropriation. During the war years the material expansion in the volume of inspection and grading work resulted in corresponding increases in deposits which in 1945 reached 97 percent of the appropriation. However, after V-J Day the volume of inspections declined so that in 1946 deposits to miscellaneous receipts amounted to \$465,975 or 87 percent of the expenditures under this appropriation.

Examples of Progress and Current Programs:

Fresh and Processed Fruits and Vegetables: During 1946 fresh fruit and vegetable inspections were furnished in practically every State through cooperative agreements with State agencies. The total volume of processed fruits and vegetables inspected reflected increases in commercial inspections and decreases in inspection for Government agencies.

Canned Products: Commercial inspection of canned products increased 72 percent over 1945. Inspection of cannery peas under new United States Standards was started in Maryland, New Jersey and Pennsylvania. A marked increase in this work is anticipated. On the other hand, unfavorable weather conditions on the East Coast curtailed the processing of tomatoes, the leading commodity volume of inspections for processing. Likewise, drastic reduction in volume of Government purchases resulted in a decrease in 1946 inspections of canned goods to about 40 percent of the 1945 volume. It is anticipated that this decrease will be offset within a short time by increased use of the service by the industry.

Frozen and Dried Products: Inspections of frozen fruits and vegetables were nearly equal to those in 1945, while inspections of dried or dehydrated products increased greatly principally due to the increase in Government purchases of dehydrated potatoes. Much of the post V-J Day Government inspection was in connection with the handling and distribution of surplus Government-owned food supplies.

Continuous Inspection Service, a special type of service rendered to individual processors requesting it, has continued to prove increasingly popular. The service was given to 87 companies and 114 plants in fiscal year 1946 compared with 56 companies and 74 plants in 1945.

Dairy and Poultry Products: The major share of dairy and poultry products inspected and graded in fiscal year 1946 continued to be in connection with Government purchases and dispositions. Inspections were for the armed forces, ships under War Shipping Administration and at public warehouses prior to disposal of the products.

As government procurement declined, marketing of dairy and poultry products returned to regular commercial channels. This has brought about a greater interest and demand for commercial inspection and grading. This is particularly true in the case of dried eggs, poultry, and poultry products. With the gradual return of ships to private operation, shipping companies are continuing the inspection and grading service on dairy and poultry products.

The inspection of poultry and poultry products for condition and wholesomeness has expanded since the end of the war. As of October 1946 this service was being furnished in 127 plants compared with 92 plants during fiscal year 1945.

Rice, Hay, Beans, Peas, Seed and Hops: The quantity inspected during fiscal year 1946 was more than double the five-year average for 1937-1941. The decrease below last year was due to the decline of government purchases and smaller production.

A special service was given to the Quartermaster Corps, U. S. Army, in the purchase of larger quantities of beans and peas.

Growers Obtain Premiums for Certain Grades of Hay: The quantity of hay inspected was 60 percent greater than in 1945 and only slightly less than the record year 1944. A large volume of hay inspection was made in California where prices on hay were at or near OPA ceilings and growers used inspection service in order to obtain premiums for certain grades of high quality hay.

All Hops Inspected for Leaf and Seed Content: The hop inspection service has now functioned for two full crop years during which time all the hops produced in the United States have been inspected and certificated for leaf and stem content and for seed content.

Use of Aspirator for More Accurate Analysis of Hops: During 1946 all State inspection laboratories used an aspirator, a device which has raised the percentage of accuracy and reduced the time required in analyzing samples. A device has also been developed and tested for selecting a representative portion of a large sample or group of samples for analysis. This device, to be used by all inspection laboratories in the coming season, will further improve the accuracy of the final results and also reduce time and labor required in analyzing samples.

Milled Rice Inspections Largest on Record: The total volume of milled rice inspected was the largest on record including inspection for grade and factor analysis. For the second consecutive year special service was rendered to the Commodity Credit Corporation in evaluating supplies of rice in California and the Southern States for use on Government programs. Over 8 million pounds of rough rice were examined for condition and inspected for grade for the Chicago Quartermaster Depot, U. S. Army. In California certificates were issued on 2,610 samples of rice for milling tests. The results of these tests served to evaluate the rice in terms of the yield of milled rice from the lots from which the samples were taken and appropriate premiums and discounts were applied under the OPA schedule of prices.

Seed Verification Service Remains Normal: Seed verification and seed dockage services continued to serve approximately the same number of seedmen. The volume of alfalfa seed verified as to origin in 1946 was over 8 million pounds more than in 1945, the lowest on record. Of all alfalfa seed sold by producers to seed dealers, an estimated 60 percent in 1945 and 72 percent in 1946 was verified as to origin. The amount of red clover verified as to origin was the lowest since the beginning of the service in 1927. The short crop of clover, together with high price, made its sale easy without offering it as verified-origin seed.

Supervised and Analyzed Soybean Samples: In cooperation with the Commodity Credit Corporation, 41 chemists and their laboratories were found satisfactory and recommended for approval to analyze samples of soybeans under the Government Support Program. In addition to supervising the work of these approved chemists, Federal employees handled check samples and appeals by Commodity Credit Corporation from original analyses as well as appeals by processors. A total of 7,452 samples was handled.

Meats: The volume of meat and meat products graded and certified in 1946 was more than ten times that of any prewar year, although approximately one-half billion pounds less than in 1945.

The Federal meat grading service conducted in 1946 covered two major types of activities: (1) Grading for Commercial Purposes According to Federal Standards - It is estimated that more than 90 percent of all carcass beef, veal, lamb, and mutton was federally graded and grade stamped during the year. Meat grading, a permissive service in normal times, continued to be mandatory through 1946 as a price control and compliance criterion. However, on October 15, 1946, when meat price ceilings were lifted, meat grading service returned to a permissive basis. Several new substations established in areas where grading service had not formerly been available placed the national grading service on a new high peak as far as number of grading contacts were concerned. Present indications are that the volume of commercial grading will continue much higher than prewar. (2) Grading for Government Purchases consists of official examination of meat and meat products for compliance with purchase contract specifications, and certification and acceptance of such product as a basis for payment.

This examination process declined after V-J Day, but increased when shipments of relief foods were reestablished during 1946 in rapidly increasing quantities. Now that governmental purchases of meat for foreign claimants has been discontinued, most specification graders have been dropped from the rolls.

Cottonseed: During the fiscal year 1946 a total of 123,357 samples, representing 2,800,000 tons of cottonseed, were analyzed and their grade certified. A method has been developed for incorporating the residual lint content in the formula for determining the quantity index of cottonseed. This method will be tested during the 1946-1947 season before it is recommended for adoption.

Cottonseed Revenue: The cottonseed grading project continued to be self-supporting as reflected in the following table:

Earnings

1. Fees for grading	\$ 30,931
2. Reanalysis fees	86
3. Samplers' license fees	1,905
4. Chemists' license fees	820
Total Earnings	<u>\$ 33,742</u>
Expenditures (Including Overtime)	\$ 32,652

The following table reflects the volume of inspections by commodities for the past three years:

Commodity Group	Fiscal Year	Fiscal Year	Fiscal Year
Farm Products Inspected	1944	1945	1946
Fresh Fruits and Vegetables (carlots) . . .	717,625	826,060	905,259
Processed Fruits and Vegetables:			
Canned Products (cases)	206,397,035	244,845,451	135,415,264
Frozen, Dried and Miscellaneous (lbs.) . .	741,035,776	642,350,469	915,049,071
Dairy Products:			
Butter, Cheese, Dry Skim Milk, Butter			
Spreads and Oils (lbs.)	1,131,128,956	822,963,825	534,389,754
Evaporated Milk (cases)	14,400,193	14,295,296	11,636,280
Poultry Products:			
Shell Eggs (cases)	10,179,543	12,190,259	10,936,374
Frozen and Dried Eggs (lbs.)	278,268,325	274,629,767	106,601,238
Poultry (lbs.)	334,333,106	368,179,350	519,133,038
Grain Products:			
Rice, Beans and Peas (100 lb. bags) . . .	36,038,954	37,230,718	25,636,031
Hay (tons)	519,499	301,914	495,493
Hops (bales)	- - -	245,300	295,742
Seed Inspection and Verification (lbs.) .	66,061,900	38,647,000	44,420,633
Meat and Meat Products:			
Fresh and Frozen Meats (lbs.)	10,747,985,893	11,570,366,328	11,322,748,967
Cured Meats (lbs.)	503,858,990	293,543,985	136,043,873
Manufactured Products (lbs.)	1,282,742,072	460,379,312	428,818,003
Miscellaneous Meat Products (lbs.)	710,384,700	433,206,253	265,660,416
Hog Casings (bundles)	4,448,674	3,021,383	243,598
Cottonseed (samples analyzed)	147,121	157,088	123,357

1/ In addition, 5,800 bales of imported hops were inspected for special quality factors.

2/ Includes re-verifications as follows: 1944 - 15,016,000; 1945 - 7,436,000; 1946 - 7,854,000.

(h) Marketing Farm Products

Objective: To promote more efficient and orderly marketing of farm and food products through fact finding and analysis. Marketing methods and facilities, and distribution practices, are studied for improvement and adjustment to changed conditions; new outlets and expanded markets are encouraged; and the system of Federal grade standardization for farm products is developed, expanded, and kept abreast of changing marketing practices.

The Problem and Need for the Work: The problems of marketing and distributing farm products are especially acute at the present time. Agricultural production increased about one-third during the war. At the same time marketing work was directed to emergency problems and normal marketing channels were disrupted in the face of the Government's supply programs and the control of price and utilization. The orderly re-establishment of normal peacetime marketing channels, together with an improved marketing service program will help to solve many of the present-day problems of marketing farm products.

Changes in general economic conditions, methods of processing, the introduction of new commodities or the appearance of old commodities in new forms, all contribute to making marketing problems continuous and difficult of solution. To discharge its responsibility for meeting these problems, the Department (1) establishes standards for farm crops, (2) recommends improvements in distribution methods, and (3) establishes production goals.

1. Standards are Established: National standards may be "mandatory" or "permissive." Cotton and grain standards are mandatory; no other standards may be lawfully used if cotton or grain are sold by grade and shipped in interstate or foreign commerce. In most cases, standards for other products are permissive; that is, they are for use by the general public as a quality measure in buying and selling.

Generally, the characteristics that determine grade are tangible things like size, weight, and freedom from defects and decay. It is relatively simple to define such characteristics as these. But, with some products -- butter, for example, color, flavor, and body are grade-determining factors. And even though such qualities are sometimes difficult to measure precisely, they nevertheless must be defined in the grades in a way that will fill ordinary commercial needs. Again, official standards cannot be hard and fast for all time. Changing marketing conditions call for flexible standards. Before the grades are recommended they are tested under actual commercial conditions. Sometimes the demand for grades necessitates the issuance of tentative grades based on the best information available, but these need to be studied further or tried out before they are promulgated as official standards.

New devices and methods for testing farm products for grade are constantly being devised by federally employed technicians. Recent accomplishments include the adaptation of a galvanometer to crushing apparatus for quickly determining the moisture content of grain; devices to determine grain dockage and test weight per bushel, to show

the color of honey, hay, cotton, and aid in determining the quality of eggs. Pressure testers indicate the maturity of apples, pears, and other fruits. Hydrometers, refractometers, and other laboratory equipment are used in grading certain processed products to determine density, sugar percentages, the relation of soluble solids to juice, and the cloudiness of liquor in canned foods.

2. Distribution Methods are Improved: Programs are developed to encourage more direct movement of products from farms to processing plants and to terminal markets, and to secure the cooperation of the food industries in the use of improved methods of processing, handling, and marketing.

These programs are based on studies of trends in methods of assembling at shipping point, and in methods of processing, storing, and hauling; studies of practices that will move products to consumers more quickly, more efficiently, and in ways that will maintain quality longer; studies of possible ways of lessening the effect on efficient distribution of various local and State laws that impede the movement of farm products across State lines; and studies of methods of eliminating overlapping and duplication in assembly and distribution, and of measures to expand consumption.

Over-all studies are made on a continuing basis during the year for the purpose of developing basic principles and yardsticks to be employed as guides in the consideration of plans for locating, constructing, and operating various types of marketing facilities for farm products. For example, studies have been made to determine (1) the type of organization best suited, from a financial and operating point of view, for building and operating marketing facilities; (2) the type of facility best suited for handling (a) fruits and vegetables, (b) poultry and eggs, (c) meat, (d) frozen foods, etc., at assembly, wholesale and retail points; (3) the kinds of facilities best suited for wholesale and retail farmers' markets; (4) the kinds of handling equipment (conveyors, fork lifts, etc.) that will for each type of use reduce handling costs to a minimum; and (5) ways of reducing, to the maximum extent possible, rent, cartage, portorage, and spoilage costs per carload. All this work is designed to determine the best kinds of facilities in order to provide the most efficient and effective markets for farm products under varying conditions.

Upon request of a responsible public agency, the Department gives assistance in planning a new market facility or improving an existing facility. It is at this point that the basic principles developed as a result of such studies are applied in developing specific plans for a particular locality.

3. Production Goals are Established: A production goal may be defined as a guide to a desirable production level for the commodity in a balanced production pattern. It becomes a production guide in the orderly adjustment of supply and demand--a guide which can be translated into the desired action on individual farms.

The production goals program of the Department was started during the war for the purpose of making the most effective use of the Nation's production resources so as to obtain maximum output of commodities

most urgently needed for winning the war. Because the unusual demand and price relationships could not be relied on, it was necessary to establish some means of bringing about the production adjustments called for. Programs to effect these shifts without jeopardizing unnecessarily the long-time farming possibilities of individual farms were desirable. The establishment of agricultural goals and the development of programs to assist in their achievement constituted the basic approach to convert agriculture to meet wartime needs. The goals program is designed to aid farmers in producing the right commodities in the right amounts so as to avoid shortages or surpluses. By making the most efficient use of resources devoted to agricultural production, consumers likewise gain.

In peace as well as in war there is a need for specific commodities in certain amounts. The establishment of goals and the administration of a program for the achievement of these goals by the Department may be looked upon as an allocation of productive resources to the end that the desired commodities may be produced in quantities appropriately related.

The goals program occupies a strategic place in the work of the Department. Over and above the specific responsibility of arriving at a balanced production pattern the work in the goals program is fundamental in arriving at policy decisions and development of Department programs. This is because the goals approach provides a specified time and an organized method of reviewing the situation, present and prospective, regarding a commodity, commodity programs and relationships between commodities.

Progress and Current Programs: The work of standardization and marketing research is conducted along commodity lines under five projects as follows: (1) Fresh and processed fruits and vegetables; (2) Livestock, meats and wool; (3) Dairy and poultry products; (4) Grain, rice, beans, peas, hay, seed and hops; and (5) Cotton and cottonseed.

Project 1. Fresh and Processed Fruits and Vegetables: During the fiscal year 1946 standards were issued and revised for the following commodities:

<u>Standards Issued</u>	<u>Standards Revised</u>
<u>Fresh</u>	<u>Fresh</u>
Cherries, sweet, for canning freezing.	Peaches for canning, freestone.
Peaches, freestone, for freezing or pulping.	Cabbage.
Peas, for canning or freezing.	Carrots, bunched.
Beans, lima, shelled for processing.	Carrots, topped.
Beets for processing.	Carrots, with short-trimmed tops.
Parsnips.	Peanuts, shelled runner.
Apple butter.	Figs, Kadota.
Grapefruit juice, concentrated.	Grapefruit and orange juice, blended.
Green Olives.	Peaches, frozen.
Canned dried prunes.	Raspberries, frozen.
Apples, frozen.	
Cherries, sweet, frozen.	
Rhubarb.	

Seventy-nine grading demonstrations were given in various States to processors, home economics groups, college and university classes, Parent-Teacher Associations, Dietetic Associations, and student nurses. These demonstrations, conducted at the request and under the sponsorship of the groups mentioned, were attended by 2,930 people in 19 States.

A related service was the review of 800 labels submitted by packers operating under the continuous inspection service in accordance with an agreement with the Department. In numerous instances, suggestions were made to the packers that prevented their printing a supply of labels that would have been in violation of Department regulations governing the use of official standards.

Project 2. Livestock, Meats and Wool: Work on grade standards for pork in which quantitative measurements replace qualitative considerations was begun. Specifications and grade description of products purchased by Federal and State governmental institutions were revised. A total of 62 demonstrations were conducted at livestock shows and sales in which cattle and lambs were judged and graded, and grades were correlated with grades of dressed carcasses. Technical assistance was given to the University of Minnesota in a study on methods of marketing livestock for slaughter.

Consistent differences have been shown to exist between standards applied by wool scouring mills and those applied in laboratories operated by Government, manufacturers, and commercial testing houses. During 1946 a series of interlaboratory experiments was started to determine reasons for these differences and to establish consistent standards. This work was done in cooperation with Texas A & M, U. S. Customs Laboratory, U. S. Testing Company, American Conditioning House, Ravenson and Levering, Gilet Carbonizing Company, Forstmann Woollen Company, and Montana State College.

After a lapse of several years, studies pertaining to the grades of mohair were resumed in a limited way shortly before the close of the fiscal year. The development of standards for the grades of mohair has been on the Department program for years, but lack of funds has prevented uninterrupted pursuit of the work.

Project 3. Dairy and Poultry Products: During 1946 a proposed revision of the quality standards for individual shell eggs, and consumer grades for shell eggs, was written and submitted to the industry for comment. A voluntary nation-wide egg and poultry marketing program based on quality conservation and uniform identification is being developed and the findings distributed in cooperation with leading industry and States marketing officials. The objectives of this program are to develop materials, and equipment, and educational plans to acquaint producers, shippers, processors, distributors, and consumers with uniform grade standards, terminology, labels, grading, inspection methods, and the operation of the program. An analysis was recently made of all State egg and grading laws. Early in the year, an outline of suggestions for developing State egg grading laws was prepared and distributed on request to State Departments and Colleges of Agriculture, and industry associations.

A study of State poultry marketing regulations was undertaken in the past fiscal year and is nearing completion. The objective is to inform officials of educational, marketing and other agencies working with poultry and egg marketing programs in the several States of the activities and problems relating to State laws, of market standards and grades, sanitary requirements, enforcement and educational programs. This study already shows that the marketing of poultry in this country is being hindered by use of numerous confusing and conflicting specifications, grade terms and requirements among the States.

Project 4. Grain, Rice, Beans, Peas, Hay, Seed and Hops: Milling and baking tests were performed as follows in 1946 as a part of a broad program for development of superior varieties of wheat:

1. Milling and baking tests were made on 540 samples of White Wheat and Hard Red Spring Wheat.
2. One hundred and sixty-five samples of durum wheat were milled into semolina and color tests were made as a measure of potential quality in production of macaroni.

General laboratory testing work performed during the year covered:

1. 73,636 chemical and physical and vitamin content tests on 7,707 lots of various products.
2. An improved electrical device which eliminates one source of error in making moisture tests of grain.

Project 5. Cotton and Cottonseed: The principal fields in which research and studies relating to cotton and cottonseed were conducted in 1946 are as follows:

1. Practices and costs of processing and marketing cotton lint and cottonseed, including ginning and related processes.
2. Research on quality standards for cotton lint, including relationship between factors of quality and spinning performance.
- 3.. Fiber and spinning research.
- 4.. Fiber and spinning testing service.

A few examples are cited to show progress in each field of research in 1946.

Marketing Costs Cut Down by Automatic Sampler: As cotton bales are sampled today, a man with a knife cuts a handful of cotton from each of the two sides of the bale. Practically every bale is hacked in this manner several times during the course of its movement from the gin to the cotton mill. As a result, the bales are ragged and lose several pounds in weight. Since the bales are usually mixed-packed, a sample cut out of the sides does not necessarily reflect the quality of the cotton throughout the bale.

A automatic sampler has been developed that will cut down these costs. It will also give a more representative sample since it takes the sample at intervals during the ginning process. The equipment for extracting the sample mechanically is fully perfected and functioned satisfactorily in commercial gins where shop-built models were tested in 1946. A device is being perfected for wrapping and marking the sample. It is estimated that wide use of the automatic sampler will reduce marketing costs one dollar a bale.

Cotton Fiber Testing Service Popular with Industry: Representatives of all branches of the industry visit the Government's Cotton Testing Laboratories to study methods and observe results.

In the laboratories, quality and spinning performance of raw cotton is precisely determined by using suitable equipment and techniques, developed through study and research. Measurements are made of tensile strength, fiber length, length variability, fineness and maturity. Actual tests show manufacturing waste, yarn strength, yarn appearance, and general processing performance.

Cotton breeders use the results of these tests as basis for developing improved varieties and strains. Instead of spending several years multiplying what may be a promising variety to get sufficient lint for a mill run, as was formerly necessary, a breeder now submits a few ounces for fiber tests and gets a good index of quality. From this index he selects cotton which offers the greatest possibilities. With as little as five pounds of lint, he then proceeds with spinning tests. On the basis of spinning tests he selects strains to multiply, and discards undesirable strains. All this is done the first year.

Testing reports are prepared in easily understood, nontechnical terms. A pamphlet, "Cotton Fiber Testing Service," describing various tests and the meaning of results obtained is supplied free upon request.

Manufacturers have found that laboratory results can be relied upon for selecting cottons for specific uses. Cotton merchants having knowledge of the fiber and spinning characteristics of cottons of different varieties and growths are able to buy more intelligently and to group bales for specific purposes demanded by their mill customers. Where merchants guarantee good manufacturing performance to their mill customers, the tests provide a means of ascertaining the performance to be expected.

New varieties and strains of cotton, grown experimentally through Federal-State cooperation at 25 experiment stations across the Cotton Belt, are tested annually. Research workers rely on published results of tests for determining effect upon cotton quality of different cultural production practices and of different methods of harvesting, conditioning, ginning, and packaging.

Testing facilities are provided at laboratories in Washington, D. C., and Stoneville, Mississippi (equipped for fiber testing only), and at Clemson, South Carolina, and College Station, Texas (equipped for both

fiber and spinning testing). Clemson Agricultural College and the Texas Agricultural and Mechanical College cooperate in the work at Clemson and College Station, respectively.

Revenue: Fees paid for cotton fiber tests performed and for sets of wool standards sold under this appropriation are deposited into the Miscellaneous Receipts account of the Treasury. During 1946 these deposits totalled \$17,121.51 as follows:

Cotton fiber tests	\$ 16,759.95
Sale of wool standards	361.56
Total	<u>\$ 17,121.51</u>

Project 6. Food Production and Marketing Activities: Certain activities which were initiated during the war have been continued on a greatly reduced scale under this appropriation to meet the emergency food conditions that arose with the end of the war and to give assistance to farmers during the transition from wartime to peacetime economy. This transition was materially retarded by production stoppages due to labor strife and shortages of basic materials. These include: Food Order Administration; Marketing Assistance and Facilities and Materials Activities; Production Goals; Nutrition Coordination Program; Food Industry Labor Program; and Wage Stabilization Program.

Food Order Administration: During 1946 such food orders were continued and new orders issued as were necessary to insure efficient use and proper allocation of commodities in short supply. Certain orders were continued providing for equitable distribution of commodities under controlled prices and one regulating imports of certain commodities. Of the 92 orders in effect at the beginning of fiscal year 1946, 54 were terminated during the year. As of December 1, 1946, 22 orders were in effect compared with 178 orders issued. It is anticipated that all food orders will be terminated before the end of fiscal year 1947.

Marketing Assistance and Facilities and Materials Activities: The Department is the point of contact on all materials and equipment needed for production and processing of agricultural commodities. Activities in this field are largely in the nature of liaison and advisory work with the food industry; manufacture of production machinery. On the basis of studies of the agricultural situation and requests from agricultural interests, determination is made of requirements of the agricultural producing and processing industries for facilities and equipment. Accomplishments by principal categories during the 1946 fiscal year were as follows:

Containers and Packaging Programs: Under Container Order M-81, 1,893,204 tons of tin plate were allocated to meet the demand for cans for agricultural products in 1946. The Department served as administrative agency for carrying out the food provisions of this order, including handling of application for establishment and adjustment of packing quotas.

Chemical Program: Agricultural requirements for insecticides, fungicides, rodenticides, and other chemicals were determined so as

to direct distribution to the most essential uses and areas. The following products were distributed; calcium arsenate in the amount of 56 million pounds to cotton growers and 21 million pounds to producers of other crops, principally potatoes; two million pounds of dinitro compounds to flax production and one million pounds to other crops; 57 million pounds of lead arsenate to producers of apples and other fruits and 23 million pounds to producers of cotton and other crops; about three million pounds of rotenone to growers of peas and beans and two million pounds to household use. During the year recommendations were developed as to the disposal of Government-owned chemical producing facilities.

Fertilizer Program: A commercial fertilizer program was developed to obtain for farmers sufficient supplies of nitrogen, phosphate, and potash to maintain crop production at a high level and at the same time prevent unnecessary depletion of soil fertility. The Department collaborated with the War Department and War Assets Administration in arranging for conversion of certain war plants to fertilizer production. The successful operation of the fertilizer program is indicated by the record volume of crop production during recent years and the following table shows estimated consumption of plant food during the 1946 fiscal year and outlook for the 1947 fiscal year, as compared with the prewar average consumption;

Fertilizer Consumption in U. S. and Possessions
Fiscal Year 1946 and 1947 with Comparisons
(In Thousand Short Tons)

<u>Period</u>	<u>Nitrogen</u> N	<u>Phosphoric Acid</u> P ₂ O ₅	<u>Potash</u> K ₂ O	<u>Total</u> N-P-K
1935-39 Average	371	720	375	1,466
1945-46 1/	710	1,494	738	2,942
1946-47 2/	710	1,577	765	3,052

1/ Estimated.

2/ Tentative - includes organic and other materials.

Farm Construction and Supplies Program: In view of the critical lumber shortage in the fiscal year 1946, the Department cooperated with the Civilian Production Administration to effect a more equitable distribution of lumber to rural areas for farm construction. Recommendations were made increasing 1946 production and distribution to farmers of such items as barbed and woven wire fencing, nails, staples, metal roping and siding, pipe, and bale ties where the shortage was acute. A new activity during the fiscal year 1946 was the reviewing of all requests for farm construction. Cases were considered involving about 40,000 dwellings having a total value of about \$134,450,000 and about 9,500 nondwellings valued at approximately \$35,000,000.

Priorities Program: Examples of priorities assistance and activity in connection with authorizations for agricultural industrial construction during fiscal year 1946 are as follows: (1) approved 60 applications for sugar industry construction; (2) negotiated with OPA to secure necessary minimum production of tobacco cloth for protection of

tobacco seed beds and of twine for tobacco harvesting; (3) arranged to make 3,500 tons of flue sheets available to tobacco industry, as well as oil burners, to be used in curing; (4) arranged for delivery of equipment for construction of 12 ice plants for producing ice for railroad cars; (5) approved 1,202 applications for various types of facilities with average value of \$4,430; and (6) approved 53 applications for agricultural industry construction, of which seven had a value each in excess of \$1,000,000 and 46 had an average value of \$122,460.

Transportation and Storage: To help minimize the effect of a serious car shortage, forecasts were made of when and where refrigerator cars, as well as boxcars for grain shipment, would be needed. It was necessary throughout the year to regulate the movement of commodities in and out of freezers to obtain the most efficient use of freezer space, particularly for meats for overseas shipment. To insure that warehouse space would be used efficiently, information on available space was collected and made available to those needing space for agricultural commodities.

Fat Salvage: The Fat Salvage Program was operated jointly by the Department and the American Fat Salvage Committee representing soap and glycerine producers and the rendering industry. During fiscal year 1946 the American Fat Salvage Committee carried out a nationwide educational and promotional campaign by press and radio directed at housewives and the fat producing and consuming industries. The Department supervised the housewife-to-grocer-to-renderer collection system.

In fiscal year 1946 supplies of both food fats and soaps were not sufficient to meet demand. The 1946 calendar year domestic production was forecast at about 300 million pounds lower than that of 1945, and exports also were expected to be somewhat lower. From January 1 through June such imports totaled 840 million pounds. The following table summarizes fat salvage collections since the inception of the program:

FAT SALVAGE MONTHLY COLLECTIONS
(In 1,000 pounds)

Month	Fiscal Year 1943	Fiscal Year 1944	Fiscal Year 1945	Fiscal Year 1946
July	3,016	7,819	14,803	10,049
August	3,813	7,342	11,379	9,380
September	4,821	7,289	11,490	8,011
October	4,718	7,397	12,069	10,735
November	5,099	6,816	11,457	9,347
December	6,919	8,924	11,734	8,577
January	6,018	14,870	15,050	12,532
February	6,978	15,253	14,073	12,241
March	7,336	17,666	17,332	16,077
April	7,327	18,272	15,307	13,965
May	7,982	16,958	13,533	13,441
June	8,647	14,662	11,498	11,244
Totals ..	72,674	143,268	159,725	135,599

Production Goals: During fiscal year 1946, as in previous years, study was made of the requirements for food and fiber products from American farms. This included anticipated domestic demands and needs as well as foreign demands either through Lend-Lease, UNRRA and similar programs or through normal export channels. On the basis of these potential demands and the estimated effective productive capacity of farms, processing plants and transportation and marketing facilities, production goals were determined for all major and many minor agricultural crops and commodities. These were issued as guides to aid farmers in increasing production of the food supplies needed and in avoiding surpluses.

Nutrition Coordination Program: During fiscal year 1946 efforts were directed toward getting the full resources of all nutrition groups behind government food and nutrition objectives. To this end, nutritional guides and programs were developed that would bring about reduced consumption of grains, meats, and fats and oils, and encourage consumption of fruits, vegetables, and high protein meat substitutes, while maintaining high nutrition standards. Through State Nutrition Committees and some 4,000 local committees, the nutrition activities of about 300,000 professional and technical people in public agencies throughout the nation, Alaska, Hawaii, and Puerto Rico were coordinated.

Food Industry Labor: The purpose of this program is to keep the Department informed of labor difficulties encountered by food industries which affect the production and marketing of agricultural products and, when such problems arise, to provide the Conciliation Service, U. S. Employment Service and other agencies with facts relevant to the possible effect of such problems on the orderly production and distribution of food and fiber products.

Although the food industry labor supply has improved considerably as wage increases in food industries, together with closing of many high-wage war plants, have brought the return to these industries of many veterans and experienced workers, this problem was still acute during the first half of fiscal year 1946. The Department was active during this period in assisting the U. S. Employment Service and employers by supplying them with facts necessary to assure orderly interstate and interregional recruitment of workers. The Department was also called upon by Selective Service for facts and recommendations relative to several hundred requests for occupational deferment for key workers in food industries. During the latter half of fiscal year 1946 and the first half of fiscal year 1947, the problem of work stoppages in food industries has demanded increasing attention.

Wage Stabilization: This program was administered through wage boards in the various states. Twenty-four such boards were in existence by the end of the fiscal year 1946, eleven of which were created during the year. Wage board members served without pay and were usually Federal or State agricultural employees familiar with agriculture, agricultural labor, and wage problems in their State.

In addition to the general wage ceiling applicable to the entire country, 42 specific ceiling orders were issued during the year as compared with a total of 52 orders during fiscal years 1944 and 1945. Specific ceiling orders in effect during the year affected 378,000 producers and about 968,000 workers and embraced crops and operations covering over 29 million acres in 345 different counties.

(i) Tobacco Acts

Objective: To assure tobacco growers a fair price for the quality of their product by providing (1) uniform standards to guide growers in preparing and sorting their tobacco for market, (2) Federal inspection at designated auction markets to determine the quality of the tobacco at the time of sale, and (3) current market information to assist growers in deciding whether the price offered by a buyer is fair and acceptable.

The Problem and Need for Federal Assistance: Prior to enactment of the Tobacco Inspection Act in 1935, wide variations in the prices of almost identical qualities of tobacco sold at auction markets had been the basis of long standing complaints among tobacco growers. It was estimated that this condition resulted in an annual loss of millions of dollars in income to tobacco growers. This money, which should have gone to producers was going to speculators, warehousemen buying for house accounts, and regular buyers capitalizing on the growers' lack of information. In addition, the growers' incentive to produce the best grade of tobacco for a greater return was obscured by his lack of knowledge of the value of tobacco by grades.

Fourteen types of American tobacco sold at auction: The six major classes of American tobacco are divided into 26 types, 14 of which are sold at public auction markets. Each of these 14 types is further classified by grade. Tobacco growers generally are not familiar with the many technical considerations which control the grades of tobacco. This, plus the fact that auction sales proceed at a very rapid pace (an average of one sale every ten seconds) tends to place the grower at a disadvantage.

Federal inspection increases return to producers: The Tobacco Inspection Act eliminates these inequities by providing tobacco growers who sell on auction markets with (1) a grade mark on the ticket of each lot to indicate its quality, (2) the official market report showing the average prices currently paid for that quality, and (3) assistance and training in preparing and sorting tobacco for market.

Method of Operation: An auction market is designated by the Secretary of Agriculture for mandatory inspection service after approval by two-thirds of those voting in a referendum of growers who sell their tobacco at the market. At these designated markets trained inspectors examine the lots of tobacco before the sale, and mark the appropriate grade symbol on each basket or lot ticket. Current price reports are made available to each grower. The grower is then in a position to determine, based on information supplied from a disinterested and unbiased source, the value of his tobacco and the approximate price he should receive. If the bid is not considered adequate by the grower, he may reject the offer and call for a resale.

Tobacco growers are further assisted in marketing their crop through an extensive educational program including demonstrations on the farm, at schools, or at farm meetings; exhibits at county fairs and farm

conventions; and by the receipt of bulletins on growing and marketing tobacco. By these various methods tobacco growers are currently informed of grade standards; the best methods of handling and preparing the product for market; and the value and use of Federal inspection and market reports on the auction floor.

Progress and Volume of Work:

Volume of Tobacco Inspected: More than 2 billion pounds of American tobacco were produced in 1945, of which about 94 percent, valued at approximately \$780,000,000 was sold at public auction. About 83.5 percent of the total amount sold at auction was inspected under the Tobacco Inspection Act. It is estimated that 93 percent sold during the 1946 season will be federally inspected and about 94 percent, or nearly 2 billion pounds in 1947.

Growth of Inspection Service: During the 1945-1946 season there were 148 tobacco auction markets in the country; all except six were designated by the Secretary of Agriculture for inspection. In 1946 fiscal year, tobacco sold on 117 of the 142 designated markets was inspected, an increase of seven markets over fiscal year 1945. The following table indicates the growth of the inspection service since the enactment of the Tobacco Inspection Act:

Crop Year	Fiscal Year	Number of Markets Inspected	Number of sets of buyers	Tobacco Inspected (1,000 pounds)	Percent of Total Auction Sales
1936-37	1937	20	26	168,762	15.1
1937-38	1938	22	28	236,761	15.4
1938-39	1939	31	41	261,155	19.6
1939-40	1940	41	58	487,234	27.4
1940-41	1941	45	66	440,999	34.1
1941-42	1942	84	114	697,619	59.4
1942-43	1943	105	145	926,681	68.3
1943-44	1944	103	143	968,729	70.8
1944-45	1945	110	147	1,477,853	77.1
1945-46	1946	117	160	1,685,979	83.5
1946-47*	1947	138	197	1,941,750	93.0
1947-48*	1948	154	220	1,967,452	94.0

* Estimated

The following table indicates the status of the 1945-1946 season inspection program by types:

Class	1945-46 Season (Fiscal Year 1946)							
	Auction Markets		Inspected Markets		Gross Auction Sales		a/ Percent in-spected	
	Total	Designated	Number of sets of Markets	Number of buyers	Total	Inspected		
					(1,000 lb)	(1,000 lb)		
Flue-cured	78	76	53	86	1,282,230	984,151	76.8	
Fire-cured	12	12	b/ 10	13	50,801	50,801	100.0	
Burley	46	46	46	55	607,044	607,044	100.0	
Dark Air-cured	8	8	8	6	43,983	43,983	100.0	
Southern								
Maryland	c/ 4	-	-	-	35,011	-	-	
	d/	d/						
Total	148	142	117	160	2,019,069	1,685,979	83.5	

a/ Includes resales. b/ Two markets did not operate in the 1945-46 season. c/ Maryland markets not designated and not officially inspected. Limited inspection maintained for price reporting service only. d/ Eight of the markets are listed twice since they sell two types of tobacco.

Market Information Service: Tobacco growers and the trade are provided daily and weekly with the current average prices of tobacco by official grades together with other important market data. This information enables growers to more accurately evaluate their own tobacco in the light of current prices.

The following table indicates the extent of distribution of market information:

Item	Fiscal Year 1944	Fiscal Year 1945	Fiscal Year 1946
Reports prepared:			
Press and Radio	419	505	525
Other (daily, weekly, seasonal, special)	490	522	592
Total	909	1,027	1,117
Distribution of copies:			
On tobacco markets	545,101	546,529	607,916
Other (Press and radio, mailing lists, demonstration and education)	114,766	117,846	152,179
Total	659,867	664,375	760,095

The distribution of the 607,916 reports to growers at markets was made on 605 auction floors, located at 115 marketing centers, and involving 13 tobacco types in 12 States.

Demonstration and Training Program: The extent and volume of work for the past several years is indicated in the following table:

Type of Activity:	1943		1944		1945		1946	
	Num- ber	Attend- ance	Num- ber	Attend- ance	Num- ber	Attend- ance	Num- ber	Attend- ance
Farm Demon- strations ..	1,391	17,441	1,258	15,588	1,582	19,009	1,354	16,689
Farmers' Meetings ...	101	3,450	277	6,981	276	7,517	1,084	8,323
School Demon- strations ..	559	20,172	610	21,686	758	27,878	996	31,212
Farm Visits & Other Contacts:	--	5,084	--	8,583	--	8,155	--	3,006
Exhibits at County Fairs and Farm Con- ventions	7	--	--	--	5	--	1	750
Training Courses at Agricultural Colleges	5	146	--	--	--	--	1	40
Training Courses for Inspectors ..	4	77	6	121	6	117	5	111
Grading tests held in Field:	4	46	7	31	5	22	7	38
Publications Distributed ..	62,500	--	58,000	--	59,275	--	58,125	--

(j) Perishable Agricultural Commodities, Produce Agency and Standard Container Acts

Objective: To protect producers, shippers, distributors, dealers, brokers, commission merchants, and consumers against unfair practices in the marketing of fresh and frozen fruits and vegetables and cherries in brine moving in interstate or foreign commerce; and to establish standard containers for fresh fruits and vegetables.

The Problem and Need for Federal Assistance: It is estimated that during the 1946 crop year sales of fresh fruits and vegetables will amount to 34 million tons. This is an increase of about 2 million tons, or 6 percent over 1945.

Due to their perishable nature it is extremely important that fresh fruits and vegetables be marketed as quickly as possible to prevent spoilage. Prior to the enactment of this legislation commission merchants, dealers, and brokers were in a position to defraud the producers, handlers, and consumers and this was often done.

The fraudulent marketing methods employed included (a) attempts to evade the terms of a contract; (b) refusal to pay for the produce delivered; (c) incorrect accounting for consignments; (d) rejecting shipments entirely; (e) attempts to misrepresent or misbrand the product offered or purchased as to quality, grade, quantity, and condition; (f) failure to keep adequate records of transactions; and (g) using deceptive and short-weight containers. As a result of these practices, losses to growers and consumers were high and vast amounts of food spoiled.

Law Requires Dealers to be Licensed: Under the Perishable Agricultural Commodities Act each commission merchant, dealer, and broker handling fresh or frozen fruits, cherries in brine, and fresh or frozen vegetables in interstate or foreign commerce is required to obtain a license from the Department of Agriculture at a fee of \$10 per year. Through field offices a check is made on those subject to license but are not licensed, and complaints of violations of the unfair conduct provisions of the Act are investigated.

Violations are dealt with by: (1) Working out amicable settlements or making informal determination after the complaining parties have agreed to abide by the decision; (2) By the payment of reparation awards between the parties involved after the filing of a formal complaint with the Secretary; or (3) Revocation or suspension of licenses or publication of facts.

The Produce Agency Act: This Act prevents the destruction or dumping of farm products received in interstate commerce and requires commission merchants to give an accurate accounting for all farm products received by them on consignment. Not only do fruits and vegetables come under the purview of this Act, but all perishable farm products, including dairy and poultry products.

Standard Containers Act: Standard size for climax baskets, berry boxes, till baskets, hampers, and round stave and splint baskets used in marketing fresh fruits and vegetables was established under this Act. All

basket manufacturers of the last three types must submit their specifications to the Department for approval as to compliance with standard qualifications. Containers not measuring up to these standards subject the manufacturers to penalty of fine or imprisonment, or both.

Compliance with these Acts is secured, and unintentional violations are prevented through periodic factory inspections or by examination in the Washington testing laboratory of sample containers voluntarily submitted by manufacturers. Scores of technical violations require only minor corrective adjustments.

The Export Apple and Pear Act: This Act is designed to promote the foreign trade of the United States in apples and pears and build up a demand for American-grown apples and pears in foreign markets. By providing for commercial inspection, the Department prevents deception or misrepresentation as to the quality of such products.

Progress and Examples of Current Programs: The following summary indicates the volume of licensing activity during 1946 as compared with 1945 and the anticipated volume during 1947 and 1948:

Item	<u>Licensing Activity</u>			
	FISCAL YEAR			
	1945	1946	1947. (Est.)	1948 (Est.)
Number of licenses issued	5,627	5,586	7,200	9,700
Number of licenses terminated	3,965	4,427	5,000	6,600
Number of licenses in effect at end of fiscal year	20,967	22,126	24,326	27,426
Net license fees collected and deposited (including arrearages fees and penalties) ..	\$234,911	\$237,516	\$260,000	\$310,000

Revenue: License fees totaling \$2,964,788, including renewals, have been collected and deposited to the miscellaneous receipts account of the Treasury since the inception of the Act in 1931 through the 1946 fiscal year. For the same period, actual operating expenses amounted to \$2,352,032, or \$612,756 less than the fees collected. As reflected in the following table, the enforcement of these regulatory acts have been on a more than self-supporting basis each year the acts have been in effect:

Comparison of Receipts and Operating Expenditures

Fiscal Year	Fees Collected and Deposited	Expenditures
1931	(P. A. C. A. enacted) \$ 151,401	\$ 85,800
1932	146,835	128,610
1933	138,704	119,533
1934	145,549	117,648
1935	147,927	123,280
1936	159,428	130,316
1937	170,620	135,934
1938 <u>1/</u>	206,709	143,507
1939 <u>2/</u>	205,678	149,491 <u>2/</u>
1940	210,095	154,783
1941	200,883	151,634
1942	200,314	150,154
1943	195,952	175,387
1944 <u>3/</u>	212,266	185,788 <u>3/</u>
1945	234,911	194,267
1946	237,516	205,900
	<hr/>	<hr/>
	Total \$2,964,788	\$2,352,032

1/ In August 1937, the Act was amended to authorize collection of license arrearage fees and assess penalties not to exceed \$25. Amount of fees for this and subsequent years includes arrearage fees and penalties.

2/ Produce Agency activities consolidated with P.A.C.A.. Amounts for prior years do not include expenditures under Produce Agency Act.

3/ Standard Container Acts activities consolidated with P.A.C.A.. Amounts for prior years do not include expenditures under Standard Container Acts.

Enforcement Activity

ITEM	FISCAL YEAR			
	1945	1946	1947 (Est.)	1948 (Est.)
Number of complaints:	2,020	2,019	2,100	2,700
Number of complaints:				
investigated	612	553	600	700
Number of formal de-				
cisions rendered ..	86	76	85	100
Formal awards of:				
reparations	\$ 69,082	\$ 88,653	\$ 70,000	\$ 85,000
Number of informal				
settlements	888	916	950	1,000
Payments under in-				
formal settlements	\$1,064,554	\$1,188,201	\$ 1,300,000	\$1,500,000

Effectiveness of Perishable Agricultural Commodities Acts and Standard Containers Act: Seldom is any objection raised by a member of the industry to an informal decision in connection with a complaint. In the comparatively few cases appealed to Federal District Courts, settlements are frequently made outside of court. Moreover, the meaning of terms commonly used by the industry is being clarified, an important factor in removing misunderstandings.

Of the complaints handled, all were under the Perishable Agricultural Commodities Act except seven which were handled under the Produce Agency Act. Enforcement of the Standard Container Acts during the past year continued to be hampered by dislocations and disruptions following wartime controls, shortages of materials, and transportation difficulties. The production of adequate quantities of baskets and hampers was the first consideration of manufacturers, growers, and the Government. Cooperation with other agencies in connection with the problems of container supply arising from shortages of material and controlled prices was a principal function throughout the year. Through manufacturers and established contracts with State and Government offices in the field, it was possible to supply vital information on prospective requirements and probable container production, upon which constructive official action could be taken.

No complaints were received under the Export Apple and Pear Act during the war inasmuch as exports of apples and pears were largely discontinued. Now that exports are being resumed, a few informal complaints have already been received; however, they have been settled without difficulty.

(k) Cotton Statistics, Classing, Standards and Futures Acts

Objective: To promote the improvement of cotton and to safeguard the interests of cotton farmers, ginner, merchants, mills, and ultimate consumers of cotton through (1) quality standardization; (2) classification and grading; (3) market news; (4) quality and price reports; and (5) related activities.

Need for Accurate and Impartial Cotton Classification: Cotton is one of the most important cash crops grown in the United States. There is no other agricultural commodity upon which so many American citizens depend for a living. Approximately 13,500,000, or 10 percent, of the people in the United States are directly dependent for at least a substantial part of their livelihood on the cotton crop. This does not include the many owners of stocks and bonds of companies whose business is based on cotton, the bankers who finance the growing, handling and manufacturing of cotton and merchandising of cotton products, and the millions engaged in retail sales. It is readily understandable why it is essential that farmers raising a commodity so intricately involved in our economic life need reliable and unbiased marketing assistance, uncolored by fictitious or misleading information from people seeking to further their own interests.

Quality Reports on Carry-over and Current Crop Supply Over-all Picture: When the quality as well as the quantity of cotton produced from year to year is known, production may be more accurately adjusted to needs and farmers may concentrate on those qualities which may be grown and marketed to best advantage. Furthermore, without such information, maximum effectiveness cannot be obtained in the production and marketing of those types of cotton that are best adapted to the needs of the cotton manufacturing industry and to the requirements of ultimate consumers of finished textiles.

The classification of cotton according to recognized standards of quality as a basis for transactions between merchants and cotton mills has been an established practice for many years. No cotton merchandising organization or manufacturer could operate without the services of skilled classers. Cotton farmers, however, are not cotton classers, and generally they are not able financially to employ classers to do the work for them. Providing cotton classification to farmers enables them to bargain advantageously and obtain full premiums for improved quality.

Inaccurate Application of Grade Names are Misleading: Before the inauguration of cotton standardization work, identical grade names were applied in different markets to cotton of different quality and price. The Cotton Standards Act, administered under this item, requires the promulgation of official standards to be used as the basis of all transactions in interstate and foreign commerce involving the sale of cotton and linters on the basis of standard description.

Cotton Classing Eliminated Many Abuses and Aided Futures Trading: The cotton classing service for future delivery lends stability to cotton futures trading by providing assurance to purchasers of futures contracts that cotton delivered will be of tenderable qualities and that

no deliveries will be made at over-valuations. The establishment of this service provided means for eliminating many abuses which theretofore had characterized cotton futures trading.

Programs Conducted under Three Projects:

Reports of Quality Authorized by "Grade and Staple Statistics Act";
The law requires the preparation and publication of two types of reports. First, a carry-over report on the quality of stocks on hand as of August 1. This is based on the classification of representative samples, taken by Federal classers, from the cotton held in storage. Second, a series of not less than three reports, compiled during the ginning season, shows the quality of the current crop for the entire Cotton Belt, by States and districts within the States. The information is secured from gins selected in such a way as to give a fair representation of the quality of all cotton produced in different sections of the Cotton Belt. Field representatives call on the ginners selected and make arrangements for them to submit a sample from each bale of cotton ginned during the forthcoming season. Samples furnished by the ginners are classified and the data used as a basis for the issuance of quality reports.

Classification Services and Market Information Available to Farmers:
Through the authorization of the Smith-Doxey amendment to the Grade and Staple Statistics Act, the following services are furnished free to groups of cotton farmers:

1. Classification of cotton produced by members of groups organized to promote the improvement in the quality of cotton.
2. Current information on market supplies, demand and prices.

Under the plan developed over the past few years, local representatives are relied upon to assist growers in organizing cotton improvement groups. A key man is selected by each new group to act as its representative. Through these group representatives, instructions are supplied for drawing and submitting cotton samples for classification. These samples are sent to field offices where they are graded and stapled by Federal classers according to recognized standards. Individual bale classification records are supplied to each grower and a summary for the year is furnished the group. Field representatives visit groups from time to time to make suggestions and give assistance and instructions in the use of the service.

Cotton market information--price quotations and market reports--are furnished regularly throughout the season to the group leaders for dissemination among the members. Group representatives post price quotations at gins or other places where farmer-members have access to them. Farmers use the information to determine what prices they should receive. In order to keep the farmer informed regarding futures prices, special effort is made during the cotton marketing season to broadcast this information by radio and through newspapers and miscellaneous publications.

Administration of the Cotton Standards and Cotton Futures Acts: Work authorized by these laws is divided into five work projects:

1. Preparation and Distribution of Official Standards: Official cotton and linters standards are used for measuring quality wherever American cotton and linters are sold. Various grades are represented by individual grade boxes containing samples illustrative of the characteristics of the particular grade. Staple length is illustrated by staple types. The grade boxes and staple types are made up from cotton or linters, carefully selected and purchased for the purpose. They are sold to members of the industry and furnished without cost to classers employed by the Government.

2. Licensing and Supervision of Licensed Classers of Spot Cotton and Linters: Cotton classers in private employment who meet the requirements of the Cotton Standards Act may be licensed and their work supervised by the Federal Government. Licensed classers are employed by cooperative association of producers, cotton merchants, warehousemen, and textile mills. For supervising the work of licensed classers, a Board of Supervising Cotton Examiners is located at Memphis, Tennessee. Local boards of cotton examiners assist in this work. A Cotton Appeal Board is maintained in Washington.

3. Classing Spot Cotton: Under the provisions of the Cotton Standards Act any person who has a financial interest in any cotton may submit samples for classification. This service safeguards the interest of cotton farmers, manufacturers, and merchants. Each year samples representing several million bales are classified by the boards of cotton examiners located at 25 cotton marketing centers in the Cotton Belt.

4. Classing Cotton for Delivery on Futures Contracts: Under the Cotton Futures Act all cotton intended for delivery in settlement of futures contracts must be classed by employees of the Government. There is a widely fluctuating demand for this service. In some years the number of bales classed for delivery on futures contracts has reached nearly one million. During recent years control measures and wartime conditions have restricted futures market activity and have been largely responsible for relatively small deliveries on contract. This type of classification is available in five southern port offices where other types of classing are also handled.

5. Supervision of Commercial Differences: In settlement of futures contracts under the Cotton Futures Act the price differences between Middling 15/16 and other grades are determined by the averages of commercial differences prevailing in spot cotton markets designated for the purpose. There are 10 designated markets at the present time. The quotations committees of the spot cotton exchanges in the designated markets are responsible for accurate quotations for more than 200 different qualities. Federal supervisors work closely with these committees, scrutinizing quotations and making corrections when necessary. Accurate quotations contribute to stability in cotton futures trading and provide a basis for determining from day to day the relationship between prices for futures contracts and those for

spot cotton. They furnish farmers reliable information from which to determine the approximate value of their cotton.

Volume and Extent of Classing and Market Information: In the 1945-1946 crop year representative samples from about $5\frac{1}{2}$ million bales of cotton, 63 percent of the total crop, were classified by Government employees. In addition, cotton linters classifications totaled 27,182. The task of classifying this volume of cotton and cotton linters and of supervising licensees required the services of 175 Federal classers during the peak season assisted by about 465 clerical workers and laborers.

Classification of Cotton: Table I attached shows by classing programs the number of classifications made in 1946 compared with the two preceding fiscal years. The unusually small cotton crop in 1945-1946, the lowest in 50 years with the single exception of 1921, resulted in a sharp drop in volume of total classifications for that crop year.

Classification of Cotton Linters: As a result of wartime Government control measures, a large percentage of the production of cotton linters in recent years has been channeled to war purposes. Linters are highly important in the manufacture of such products as smokeless powder, nitrocellulose, guncotton, high tenacity rayon, plastics, etc. Annual production of linters expressed in terms of 500-pound bales, averages about 1,500,000 bales.

The volume of the linters classification work in 1946 is indicated by the following figures:

Number of public service classifications of linters (fee charged)	19,225
Number of classifications under Government control measures (no fee)	6,251
Number of classifications made in checking work of licensees (no fee)	1,606
Number of classifications of felt samples (no fee) ..	100
Classers licensed, including renewals (fee charged) ..	88
Official standards distributed	300

Smith-Doxey Classing: The popularity of the free classification and market information service under the Smith-Doxey Act is attested by its growth since the work was inaugurated in 1939, as reflected in Table II, attached.

Revenues earned in various ways in connection with cotton and cotton linters classification during the fiscal year 1946 are shown in Table III, attached. These figures show that the classing work was more than 60 percent self-supporting in the 1946 fiscal year.

TABLE I

	Fiscal Year 1944	Fiscal Year 1945	Fiscal Year 1946	Fiscal Year 1947 (Estimated)	Fiscal Year 1948 (Estimated)

* Smith-Doxey classifications also are acceptable under the CCC loan, purchase and sales programs.

TABLE II

Growth in the Use of Classification and Market
Information--Smith-Dorsey Act, Fiscal Years 1939-1948

Fiscal.. Year	Season Beginning August 1	Members	Samples Classed	Percentage of Crop Classified
1939	1938	18,589	83,592	.8
1940	1939	64,399	265,090	2.3
1941	1940	128,216	1,530,764	12.4
1942	1941	278,782	2,520,083	24.0
1943	1942	281,100	3,567,095	28.7
1944	1943	281,493	3,350,622	30.1
1945	1944	318,700	4,037,000	34.1
1946	1945	342,900	2,905,437	32.8
1947	1946 (Est)	345,650	2,500,000	30.0
1948	1947 (Est)	346,000	3,000,000	30.0

TABLE III

Revenues, Fiscal Year 1946

	Collections
<u>Cotton Standards Act:</u>	
Classing of cotton	\$324,690.40
Classing of cotton linters	4,476.93
Cotton classing license fees	1,905.00
Cotton linters classing license fees	310.00
Sale of copies of cotton standards	17,183.05
Sale of copies of cotton linters standards	1,164.10
<u>Cotton Futures Act:</u>	
Classing of cotton	12,122.65
Total collections deposited into Miscellaneous Receipts Account of the Treasury	\$361,852.13
<u>Value of Samples Accumulated for Sale as Government Property (estimated on basis of current price, less baling and handling costs). Proceeds will be deposited to Miscellaneous Receipts Account of the Treasury.</u>	<u>Value</u>
Cotton samples	\$310,721.98
Linters samples	1,123.71
Net estimated value of samples	311,845.69
Total revenue earned	\$673,697.82

(1) United States Grain Standards Act

Objective: To assure farmers, cooperative associations of producers, grain dealers, and processors a fair and equitable evaluation of the quality and condition of their grain, to the end that they may market it to the best advantage.

The Problem and Need for U. S. Standards and Federal Supervision: The grain trade handles grain valued in excess of 5 billion dollars annually, at present prices. Prior to the enactment of the United States Grain Standards Act, farmers were severely penalized through the receipt of lower prices for their grain crops due to the chaotic conditions under which the enormous trade in grain was conducted. Although the grain was bought and sold by grade, each market had its own grades and methods for interpreting grades. Often the certificates of grade issued in one market were not accepted in another. The confusion of grades led to an intricate maze of trading maneuvers through which each market sought to build up its own advantage, and since there was no regulating authority, unscrupulous dealers could at times demoralize the whole trade. Because the marketing of grain affects a substantial part of the Nation's transportation, warehousing, and productive capacity, no effort should be spared to insure its being handled uniformly, expeditiously, and efficiently.

Plan for Administration of Act: The administration of the United States Grain Standards Act coordinates all grain inspection agencies into a national public service independent of local bias and influence insofar as possible under a licensing system. Under this law a nation-wide grain-grading service has been developed which is now thoroughly integrated into the entire grain-marketing system.

U. S. Grain Standards Indispensable to Orderly Marketing of Grain: The standards established under the authority of this Act have been found indispensable in cash and futures trading, warehousing, transportation, financing, price quotations, and the export trade. They form a basic, integral part of the marketing of the Nation's grain crops from the producer through the various channels of trade to the ultimate consumer. The standards promote economical use of our overburdened marketing facilities and provide a common language through which persons located at points distant from each other may contract with confidence for their grain requirements.

Timely Revision of Standards Essential: The standards must be amended or revised from time to time to match changes in production, marketing conditions, and usages of the grain. Revisions must be suitable to facilitate marketing; and timely so as not to disrupt orderly marketing, loans, or other essential activities. The effective date of any changes in the standards must be at least 90 days after promulgation and publication in the Federal Register.

Work of Licensed Inspectors Supervised under Act: Licenses are granted to applicants after examination, except that licenses must be granted without examination to inspectors of any State which maintains a grain inspection department organized under State law. These licensees are not Federal employees. In order to secure uniformity of inspection throughout the United States, the work of licensees is supervised by Federal employees. Experience has shown that adequate supervision coverage should consist of the review of from 10 to 15 percent of the carlot inspections performed by licensees and at least 90 percent of the ship cargo inspections. The coverage of carlot inspections is based on Federal samples, including samples taken in appeals, and the 10 to 15 percent coverage varying with different markets has been found to be adequate. With cargo supervision, a high percentage of coverage is necessary because there is no opportunity for appeal once the grain is in the hold of the ship unless a Federal sample was taken at the time of loading. In the case of exported grain, incorrect grading by licensees may become the subject of representations through diplomatic channels. The supervision of cargoes can be accomplished in two ways; (1) by means of Federal samples taken at the time of loading, or (2) on the basis of the sample taken by the licensed inspector and examined by a Federal grain supervisor. Experience has shown that to be effective cargo supervision should be based on Federal samples taken from approximately two-thirds of all cargo shipments.

Whenever the work of a licensee is found to be unsatisfactory, his license may be canceled only after he has been afforded a hearing. The sound approach, and the one which the Department has endeavored to follow, is to secure correct and uniform application of the standards in the first inspection by the licensee rather than to permit misgradings to occur and then be faced with the necessity of instituting disciplinary action. This is accomplished, not only by the taking of check samples and handling of appeals called by the trade, but also by constant and close cooperation between the Federal supervisors and the licensed inspectors on day-to-day grading problems as they arise.

Law Provides for Appeal Inspections: The number of appeals that must be handled in the work under this appropriation is dependent to a great extent on the quality of the crop and the amount of supervision that can be given to the initial work of licensed grain inspectors. Usually under normal peacetime competitive trade conditions the number of appeals increases as funds and personnel available for supervision decreases. Conversely, as less supervision is given to the work of licensees, the appeal load increases. Thus, experience has indicated that supervision coverage should represent from 10 to 15 percent of the carlot inspections performed by licensees and at least 90 percent of the cargo inspections to hold appeals to a minimum consistent with the maintenance of uniform standards for all grain sold by grade in interstate and foreign commerce.

Irregularities of licensees in the grading and certification of grain must be investigated and appropriate action taken. Investigations must be made and actions taken on complaints that (1) persons in the grain trade

have misrepresented the grade of grain inspected, (2) there have been improper marketing practices involving the grading or inspection of grain, or (3) persons have failed to secure inspections required by the Act.

The requirements of the statute are mandatory on persons who merchandise grain by grade in interstate and foreign commerce. There is a corresponding responsibility on the Federal Government to provide a satisfactory inspection service for those who are required to use it. Adequate funds and personnel are essential for this purpose.

Progress in Supervising the Inspection of Record Grain Crops: Grain marketings inspected in 1946 exceeded the 1945 record output by more than 486,700,000 bushels, or about 13 percent. During the year, 439 licensed inspectors located at 138 established points and authorized to make inspections at 81 additional designated points (total 219), made 2,063,823 inspections covering 4,133,866,000 bushels of grain. During the six-year period, 1941 to 1946, the volume of grain inspected annually under the Grain Standards Act has doubled.

In 1946 Federal Grain Supervisors Checked 163,000 Inspections: Supervisors checked 163,000 inspections, or about 8 percent of the total. About one-third of this checking was in connection with appeals filed by interested parties who were dissatisfied with the grade assigned by the licensed inspector or who preferred or required a certificate issued by a Federal employee. This supervision and check of the grading of licensed inspectors aids in maintaining uniformity in grades between markets and reduces the marketing hazards incident to sampling and inspecting grain.

The following table shows the percent of Federal supervision coverage related to the volume of grain inspected and graded by licensed grain inspectors:

Fiscal Year	: Total Production	: Bushels Inspected and Graded:		Supervision Coverage,	
		: by Licensees - Receipts and Shipments Combined		: Federal Samples Taken and Examined - Receipts and Shipments Combined	
		Carlots	Cargoes	Carlots	Cargoes
	Bushels	Bushels	Bushels	Percent	Percent
1940	: 4,520,225,000	: 1,603,836,000	: 273,038,000	: 17	: 59
1941	: 4,811,508,000	: 1,719,439,000	: 224,991,000	: 16	: 62
1942	: 5,216,199,000	: 2,033,383,000	: 234,958,000	: 12	: 57
1943	: 5,994,881,000	: 2,569,879,000	: 254,331,000	: 9	: 25
1944	: 5,406,594,000	: 2,890,328,000	: 346,547,000	: 9	: 14
1945	: 5,863,036,000	: 3,174,635,000	: 472,508,000	: 9	: 20
1946	: 6,303,540,000	: 3,428,861,000	: 705,005,000	: 8	: 34
*1947	: 6,643,050,000	: 3,500,000,000	: 650,000,000	: 10	: 45
*1948	: 5,939,615,000	: 3,250,000,000	: 500,000,000	: 11	: 55

* Estimated

The following table shows the number of appeals handled and appeal fees deposited in the Miscellaneous Receipts account of the Treasury:

Fiscal Year	:	Number of Appeals Handled:	:	Appeal Fees Deposited to Miscellaneous Receipts of Treasury
1940	:	42,382	:	\$50,989
1941	:	45,894	:	63,746
1942	:	56,886	:	73,798
1943	:	55,393	:	70,047
1944	:	48,417	:	57,437
1945	:	59,024	:	78,480
1946	:	53,128	:	67,762
*1947	:	55,000	:	70,000
*1948	:	55,000	:	70,000

* Estimated

(m) United States Warehouse Act

Objective: To insure farmers safe storage for their products from the time of harvest until such products are sold, and to provide for the farmer a warehouse receipt which is universally accepted by banks and other lending agencies as prima facie evidence of commodity security for loans.

The Problem and the Advantages of Federal Warehouse Supervision: Safe storage of their products is important to farmers not only as a means to avoid losses but also to facilitate the financing of their operations through low-interest loans. Financial institutions are willing to advance funds at low interest rates on warehouse receipts only when they know that the warehouse is properly supervised, the product is correctly represented as to grade and condition, otherwise they loan on their estimate of the moral and financial responsibility of the borrower. The Warehouse Act places the farmer or small merchant who is armed with a federal warehouse receipt on a level for borrowing purposes equivalent to that occupied by the more favorably situated borrowers. The public interest is served by sound warehousing to protect the food and fiber supply, to permit orderly distribution of the product throughout the year, and to reduce marketing costs through low-cost credit and reduction of risk. Warehousemen and owners of agricultural products are now more conscious of the need for safe storage and proper supervision than ever before. Warehouse operators welcome the assistance from warehouse examiners in showing their employees how the products should be handled. The results of federal warehouse supervision have been so favorable that warehousemen throughout the country have found it to their advantage to obtain a federal license. In spite of the demand for licenses, the number of licensed warehouses has remained relatively stable because of limitations in securing the number of personnel needed for warehouse supervision work. New applications for licenses can be accepted only to the extent that existing licenses are canceled.

Program Operates Through Extensive Investigational Work: In the administration of the United States Warehouse Act there are two principal lines of work, (1) licensing, and (2) supervision of licensed warehouse operations. Before a license is issued extensive investigational work must be done. Each examination involves the following:

1. Seeing that warehouse is in proper condition for safe storage. For example, examine roof to see that it does not leak; see that floors are dry; drainage system is adequate; and fire prevention equipment is in good order.
2. Checking condition of products to guard against deterioration and spoilage.
3. Checking stocks to determine whether all products represented by outstanding receipts are actually there.
4. Seeing that actual weight and grade of all products correspond with representations on receipts.

5. Determining whether receipts are signed by a person having proper authority.
6. Seeing that adequate insurance on stored commodities is in force and that surety bond in the proper amount is on file.
7. Investigating financial condition of warehouseman.

On the basis of information obtained, a decision is made as to whether a warehouseman should be licensed. The judicious selection of licensees through careful screening of applications, coupled with proper supervision of licensed warehouse operations, provides a sound foundation for warehouse receipts as a basis for collateral on loans.

Examples of Progress and Current Programs: The following table shows the activity during the fiscal year 1946 as compared with the fiscal year 1945, with respect to the licensing of warehousemen:

	1945	1946
New licenses issued	111	131
Amendments to existing licenses	208	230
Expirations	42	22
Cancellations	71	91
Suspensions	7	11
Reinstatements	5	1
Total licenses in effect at end of year	1,330	1,340

In addition to the above activity with respect to warehousemen, 557 licenses were issued to samplers, inspectors, weighers and graders; 91 licenses, which were issued for rendering various services at warehouses, were amended, 514 were suspended or cancelled, and 40 service licenses were reinstated. Practically all of the reinstated licenses were issued to persons whose licenses had been suspended when they entered military service.

As for the licensing of warehousemen and their ability to serve the public, the following table shows the progress over a three year period (fiscal years 1944, 1945 and 1946):

Commodity	Unit	Licensed Capacity 6-30-44	Licensed Capacity 6-30-45	Licensed Capacity 6-30-46
Cotton	Bales	10,648,785	10,590,086	10,573,753
Grain	Bushels	260,501,904	258,128,154	271,202,154
Wool	Pounds	78,706,700	120,577,054	132,031,000
Tobacco	Pounds	116,150,000	100,740,000	74,940,000
Nuts	Tons	19,800	6,600	6,600
Broomcorn	Bales	16,750	24,750	28,450
Beans	Cwt.	1,624,650	1,551,550	1,551,550
Sirup	Gallons	642,640	592,640	682,640
Cold Pack Fruit ...	Pounds	6,313,950	6,313,950	6,313,950
Canned Foods	Cases	3,575,900	4,113,900	4,064,900
Seed	Cwt.	492,187	207,187	201,187
Cherries in Brine ..	Pounds	7,769,000	7,235,000	7,235,000

Supervision of Warehouses: At the close of the 1946 fiscal year approximately 1,340 warehousemen were licensed and about 3,385 licenses were in effect for persons to sample, weigh, inspect and grade products under the Act. In supervising these warehouses, approximately 4,400 examinations were made during the year, or an average of 3.28 inspections per warehouse.

(n) Federal Seed Act

Objective: To protect farmers and other users of seed by (1) requiring a complete and accurate labeling of all agricultural and vegetable seeds shipped in interstate commerce, and (2) preventing importation of inferior agricultural and vegetable seeds.

The Problem and Need for Federal Protection: A farmer's entire year's effort may result in financial disaster if the seeds he plants are not of good quality and of the desired variety. He must, of necessity, rely upon the statements appearing on seed labels. The farmer cannot determine by visual examination some of the inherent values of seed and whether or not the seed will germinate properly.

During the last few years it has been impossible to obtain certain kinds of seeds previously imported from foreign countries. Further, a shortage of domestic varieties of seed existed at a time when there was an urgent need for greater production of agricultural products. This increased the price of seed and attracted many firms without past experience into the seed industry, resulting in additional wilful, as well as unintentional, misrepresentations and adulterations of seed.

Prior to the enactment of the Federal Seed Act large quantities of low quality seed and screenings, used primarily as an adulterant in seed at the expense of the farmer, were imported into the United States. Under normal conditions many kinds of seed are produced more economically in foreign countries. This is particularly true with certain kinds used in the United States for pastures, forage, and in gardens where seed is not harvested. In 1946 the quantity of seed offered for importation was more than double the quantity offered in 1942. Offerings since July 1, 1946 point to a still greater expansion. It is essential to the welfare of American agriculture that low quality seed and seed containing noxious weed seeds be excluded from the country.

Enforcement of Act Protects Producers: The Act requires that all imported field and vegetable seeds meet minimum standards and that all seed shipped in interstate commerce be accurately and completely labeled. This necessitates testing and sampling for variety, purity, noxious weed content, and germination; examination of records for origin and other matters required in labeling; supervision of staining or cleaning; investigation of violations and the initiation of legal proceedings when necessary.

The work involving accurate labeling is carried on in cooperation with 46 states and provides for utilizing the services of more than 250 State inspectors. Cooperative seed testing laboratories are maintained at Montgomery, Alabama; Sacramento, California; and Corvallis, Oregon. Federal laboratories are now operated at Kansas City, Missouri; Minneapolis, Minnesota; and Beltsville, Maryland. Violations are reported by State officials to one of these laboratories for formal action. Cooperation with the States prevents duplication of effort, makes for more economical administration, and from a long range viewpoint encourages uniformity in State seed laws and more efficient enforcement of them. In the last six years 29 States have enacted or amended their seed laws to conform with the Federal Seed Act.

Progress in Handling Expanding Volume of Complaints and Seed Tests: The Federal Seed Act of 1939 is now being administered for the first time under conditions that are not directly restricted as in time of war. There was considerable expansion in the number of complaints with respect to seed shipped in interstate commerce. This increase in complaints resulted in part from a resumption of the importation of seed from continental Europe.

Interstate Complaints: As shown by the following table, 527 complaints with respect to apparent violations of the Federal Seed Act were reported and investigated during the past year. This represents an increase of 92 percent over the fiscal year 1945, and 25 percent over the average during 1940 to 1944.

Status, Volume and Disposition (Actual or Estimated) of Complaints Arising from Interstate Shipments of Seed, Fiscal Years 1944-1948, Inclusive

	: 1944	: 1945	: 1946	: 1947: (Est.)	: 1948: (Est.)
Complaints pending beginning of year:	101	104	98	78	200
Complaints received:					
Federal	97	49	74	75	75
State	404	219	430	600	700
Commercial	2	6	23	25	25
Total	503	274	527	700	800
Seizures recommended	19	4	9	10	10
Cited for hearing	109	59	79	100	100
Warnings issued	299	170	381	400	400
Advised that action is not warranted:	164	58	96	100	100
Criminal action recommended	56	59	44	60	60
Cease and desist proceedings	0	0	0		
Criminal actions terminated in court:	25	14	9		
Seizures terminated in court	24	8	3		
Cease & desist proceedings terminated:	0	1	0		
Court actions pending at end of year:					
Criminal	10	6	12		
Seizure	8	2	5		
Complaints pending at end of year .:	104	98	78	200	325

Importation Trends: Importations of seed subject to the Federal Seed Act continue to reflect a rising trend. The following table indicates the kinds of seeds admitted and import actions taken in relation to the volume of imports during fiscal years 1944 to 1946 and an estimate for 1947 and 1948:

Fiscal Year	: Number of kinds of seed	: Number of Import Actions	: Offered for Importation (pounds)	: Finally Rejected (pounds)	: Total Released (pounds)
1944	: 66	: 3,099	: 66,301,348	: 1,695,172	: 64,606,176
1945	: 69	: 3,632	: 75,204,957	: 1,320,350	: 73,884,607
1946	: 83	: 3,736	: 70,485,426	: 3,193,820	: 67,291,606
1947 (est.)	: 105	: 5,000	: 112,000,000	:	:
1948 (est.)	: 110	: 5,500	: 120,000,000	:	:

During the fiscal year 1946, 225 varieties of seed were imported. This is an increase of more than 40 percent over 159 varieties imported during 1945. During the past year, 1,101,206 pounds of vegetable seeds were imported, or an increase of about 118 percent over 1945. These shipments included spinach, cabbage, cauliflower, and other kinds of seed imported from continental Europe for the first time since the war. Importation of agricultural seed totaled 66,190,400 pounds, or 7,189,000 pounds less than during the fiscal year 1945. This decrease was due to (1) the fact that approximately 2 million pounds of Argentina alfalfa seed were purchased by the United Nations Relief and Rehabilitation Administration after the seed was offered for importation into the United States but prior to being stained and granted admission, and (2) the embargo placed by the Interstate Commerce Commission from March 6 to May 20, 1946, inclusive, on the importation from Canada of oats in bulk for seeding purposes. The importations of agricultural seed included substantial quantities of rough bluegrass, orchard grass, and winter rape received from continental Europe for the first time since the United States' entry into the war.

Seed Testing: The following table shows the volume of seed samples tested under the Federal Seed Act during the fiscal years 1942-1946 and an estimate for 1947 and 1948:

Fiscal Year	: Import	: Inter- state	: Check : Tests	: Variety	: Research	: Miscel- : laneous	: Total
1942	: 3,668	: 2,966	: 472	: 421	: 896	: 1,638	: 10,061
1943	: 2,782	: 3,215	: 446	: 9	: 0	: 3,048	: 9,500
1944	: 3,751	: 2,079	: 246	: 464	: 396	: 3,173	: 10,109
1945	: 4,451	: 3,650	: 155	: 1,346	: 1,646	: 1,627	: 12,875
1946	: 3,614	: 5,057	: 74	: 2,127	: 695	: 1,130	: 12,697
1947 (est)	: 4,800	: 7,500	: 50	: 2,000	: 3,000	: 1,200	: 18,550
1948(est)	: 5,000	: 8,000	: 100	: 1,200	: 3,050	: 1,200	: 18,550 <u>1/</u>
:	:	:	:	:	:	:	:

1/ In addition, it is estimated that requests for tests of approximately 2,800 seed samples (800 for variety and 2,000 research) will be received in 1948.)

Testing Schools Reopened: Seed testing schools were not in session in 1945 but were reopened in June 1946 at Montgomery, Alabama; Corvallis, Oregon; and Sacramento, California. Similar schools were held at Kansas City, Missouri; Minneapolis, Minnesota; and Beltsville, Maryland, during the month of August 1946. The schools were under the direction and supervision of an experienced analyst from the Beltsville laboratory.

Improvement of Seed Testing Methods: Many studies in the improvement of seed testing methods, some of which had their inception previous to 1946, were continued and completed in the past year with the following major results:

1. Improvements were made in equipment, especially in the use of fluorescent lights to replace natural daylight in seed germination chambers. Since these lights have proved satisfactory, their use is being extended to other Federal laboratories.

2. Progress was made in the development of an air-conditioned germination chamber to the point where it can now be accepted as entirely satisfactory. The use of such a chamber will reduce the amount of equipment, space, and labor required in a germination laboratory.
3. A study was made to develop methods for germinating dormant seeds of New Zealand Browntop and Highland Bentgrass and the results published.
4. Other studies of value include studies to shorten germination periods, and the use of chemicals and dyes in stimulating germination of seeds.

(c) Packers and Stockyards Act

Objective: To assure producers fair and reasonable rates and services at public livestock markets.

Producers and Shippers Formerly Defrauded: Preceding the enactment of the Packers and Stockyards Act, it was common practice for packers, stockyard companies, commission firms and dealers to victimize producers and shippers of livestock through unfair, fraudulent, and deceptive tactics, such as unreasonable charges, inaccurate weights, collusion between salesmen and buyers and many others. This regulatory law has eliminated the bulk of these practices, but violations tend to increase in times of uncertain economic conditions when prices are fluctuating widely and the production and movement of livestock are in heavy volume.

Protection Afforded Producers by Federal Supervision: At the 17 principal livestock markets in this country, supervisors are maintained to observe day-to-day operations in order to ascertain unfair, deceptive or discriminatory practices, inadequate services and facilities or any conditions which are detrimental to the interests of producers patronizing the public markets. The smaller stockyards are visited periodically; complaints are investigated and settled on the spot by the supervisors. In addition to the work of supervisors, operators are required to:

- (1) Register with the Secretary of Agriculture and furnish bonds to assure performance in carrying out the obligations they incur.
- (2) File a schedule of all charges that may be assessed for services performed.
- (3) Furnish their facilities without discrimination.
- (4) Provide an accurate and complete accounting to shippers of their livestock sales.
- (5) Maintain complete records of all transactions.

Progress and Examples of Current Programs:

Violations of Fair Trade Practices Increasing: Enforcement of this Act during 1946 resulted in savings to livestock producers of over a half million dollars. Although the volume of livestock marketed in 1946 totalled 120,000,000 head, a reduction of less than one percent below the number marketed in 1945, the volume of new violations increased 14 percent over 1945. The continued high volume of trading coming at a time when economic pressures were causing stockyard companies and commission firms to urge higher rates, together with the tendency toward increased trade practice irregularities were responsible for the increased volume of violations during 1946.

The volume and status of formal proceedings under the Act during the fiscal year 1946, compared with the three previous years and estimates for 1947 and 1948, is reflected in the following table:

Number of Formal Proceedings

Fiscal Year	Cases Pending Beginning of Year	New Cases	Hearings Reopened	Total	Cases Disposed of	Cases Pending End of Year
1943	56	48	10	114	65	49
1944	49	80	10	139	82	57
1945	57	71	13	141	95	46
1946	46	24 ^{1/}	20	90	67	23
*1947	23	70	22	115	80	35
*1948	35	80	24	139	105	34
						*

* Estimated

1/ In addition to the 24 new cases, 60 stipulations and 57 modification cases were handled.

The number of firms and agencies subject to the Act at the close of fiscal year 1946, compared with the three last preceding years and estimates for 1947 and 1948, is reflected in the following table:

Firms and Agencies Subject to the Packers and Stockyards Act as of June 30, 1946 Compared with 1943, 1944, and 1945

Fiscal Year	Stockyards Posted	Market Agencies Registered	Dealers Registered	Packers under Supervision	Poultry Licenses
1943	205	1863	2548	1217	1619
1944	202	1907	2553	1301	1574
1945	196	1972	2506	1332	1538
1946	210	2018	2690	1340	1549
*1947	220	2040	2730	1800	1600
*1948	250	2100	2800	2000	1620

* Estimated.

It is estimated that over 300 additional auction markets are eligible for supervision under the Act. However, funds available are not sufficient to provide additional adequate supervision of investigations.

Producers and Farmers Saved \$500,000: During the 1946 fiscal year, 1,301 requests for changes in existing rates were filed. In cases where adjustments involved substantial increases, economic surveys were made for the purpose of testing the claims, before recommending their acceptance. Unless full justification was shown, the parties filing the tariffs were persuaded in most cases to withdraw or modify their requests. In cases where higher rates are justified, the stockyard companies have been uniformly required to secure a part of such revenues through the assessment of yardage charges against dealers and traders, applicable to resales of livestock purchased by them for speculation. The effect of this requirement has been to reduce that portion of the burden borne by the farmer-producer in the past to cover maintenance costs of those stockyards subject to the Secretary's jurisdiction. Savings to producers as the result of formal and informal action on rates and charges in 1946 are estimated to be over \$500,000.

Audits Reveal Speculation by Firms in Producers' Livestock: Serious violations of the Act, such as commission firms permitting their employees to speculate in consigned livestock, were disclosed by the 404 financial and trade practice audits that were made during the year. Through stipulation or formal actions prompt discontinuance of such practices was obtained and \$142,000 was restored by the firms which misappropriated for their own use funds received from the sale of shippers' livestock. Twenty-four firms were required to set up separate bank accounts to handle shippers' proceeds of sale funds since the firms' financial condition was such that it was deemed necessary to segregate shippers' funds from the firms' funds in order to assure prompt payment of net proceeds to the shippers. Other violations, such as incorrect assessment of selling and buying commissions, incomplete accountings to consignors or buyers, and failure to furnish consignors with the notices required by the regulations, were a few of the less serious violations that were revealed.

Complaints, Bonding and Scale-testing: Four hundred and nine complaints were handled by the supervisors in 1946 as compared with 520 during 1945. Through the intervention of supervisors, a total of \$10,505 in adjusted settlements was recovered for shippers and others, without the necessity of complainants being put to the trouble and expense of filing formal complaints and attending hearings.

Registrants and licensees subject to the bonding requirements of the Act cooperated in furnishing the necessary amount of bond coverage. In a very few instances it was necessary to institute formal proceedings to bring about compliance with the bond regulations. As of June 30, 1946, registrants and licensees had bonds in effect totaling approximately twenty-six and one-half million dollars.

A total of 1,955 scale testings were made at the various markets throughout the country. These tests revealed that over 400 scales, or more than 20 percent, were in need of adjustment, repair, overhauling, or replacement.

Audits of books and records of the various agencies subject to the Act were made during the fiscal year 1946 as indicated in the following tabulation:

Audits

Type	: Stockyards:	: Commission:	: ;	: ;	: ;	: ;	: ;
		Firms	Dealers	Licensees	Misc	Totals	
Financial & trade	:	:	:	:	:	:	:
practice	50	201	130	19	4	404	
Rate, and tabulation	3	-	-	-	-	3	
Miscellaneous	-	4	15	-	-	19	
For licenses	-	-	-	38	-	38	
Totals	53	205	145	57	4	464	

(p) Naval Stores Act

Objective: To protect the public against the sale of adulterated turpentine and misgraded and misbranded rosin.

The Problem and Need for Federal Supervision: Prior to the passage of the Naval Stores Act providing Federal regulation of naval stores sold in interstate commerce, it was difficult to obtain pure turpentine. Due to the absence of official standards and grading service many producers and dealers adulterated turpentine with mineral oil and kerosene. Of the four kinds of turpentine, each suitable for different purposes, the buyer was unable to know which kind he was buying. The situation with respect to rosin was no better. Rosin varies from a light yellow color, which is the best quality, to a very dark red color, which is poor quality. Since the color variations are slight (there being 13 color grades), producers and dealers often misbranded and misgraded rosin, and it was impossible or impracticable for buyers to know the difference. Through Federal regulation the buyer can now state the kind of turpentine desired, and since the seller is required to place the exact standard of identity on the label, the proper product can be obtained. The color or grade standards for rosin which have now been developed make it possible for the buyer to purchase the grade needed for his purpose.

Essential Uses of Naval Stores: Naval stores have many essential uses. Rosin is used extensively as a sizing or water-repellent in paper-making. Rosin makes wrapping paper and fiberboard boxes strong and water-resistant, acting as a binder for the cellulose fibers. Yellow laundry soap contains about 50 percent of rosin soap, and many of the cheaper grades of toilet soap and most industrial soaps contain some rosin. The manufacture of varnishes and enamels require large quantities of rosin, in the form of weather and wear resistant synthetic resins. Rosin is used also in making chemical and pharmaceutical preparations, such as body plasters and adhesive tape. Heated to high temperatures, rosin is converted to rosin oil used in making printing ink and axle grease. It is used in the manufacture of linoleum and other floor coverings, adhesive and plastic preparations, foundry core oils, shoe polish, matches, insulating materials, insecticides, and for many other purposes.

Turpentine is necessary for thinning paints and varnishes. It is used in paste shoe polish, insecticides, printing inks, adhesives and plastics, and certain medical preparations. It is also a well-known home remedy. A colorless synthetic resin is made from pinene, one of the constituents of turpentine. Today practically all the camphor produced in this country is produced synthetically from alphapinene, the principal chemical compound in turpentine. Camphor is an important item of medicine and an ingredient in celluloid and some forms of smokeless powder. Formerly, camphor was obtainable only from the camphor tree in Formosa, and the Japanese Government had a monopoly on the camphor supply.

Federal Supervision Protects Producers and Consumers: Shipments of naval stores entering interstate commerce are sampled for analysis, classification, or grading in order to detect adulteration or misrepresentation. Since commerce is largely interstate and international, it is necessary to establish suitable standards of terminology, grade and quantity. An inspection and grading service is maintained and is rendered upon request of any interested person. The Federal certificates of analysis or grade which are furnished, showing the analysis, classification, or grade, are acceptable in any court as prima facie evidence of the quality and condition of the naval stores tested. A fee is charge for the inspection and grading service.

Application of Standards: Sets of colored glass standards for the grading of rosin are prepared and loaned to interested parties. The grade of rosin is determined by comparing a suitable sample with the appropriate standard types. These standards for American rosin grades are recognized the world over, thus greatly benefiting export trade.

To be of standard quality, and meet the requirements of the Act, turpentine must agree with the standard designation of source and method of production indicated both by the label and by the invoice covering the sale of each lot. It must also conform to the generally accepted specifications for quality of turpentine that suit the ordinary purpose for which--or processes in which--the article is generally used.

Progress Made in Administering the Act: Approximately 50 percent of the turpentine sold in interstate commerce moves through wholesale and retail outlets of the eastern and northeastern seaboard States with a high concentration in the greater New York area. By providing for the collection of samples of turpentine offered for sale by wholesalers, distributors, and retail stores in this one area, with occasional sampling trips into Central States distribution areas, it is possible to secure a check on the major portion of naval stores moving in interstate commerce. This check is made by one inspector-chemist headquartered in New York, and the samples are analyzed for adulteration or mislabeling in the New York laboratory. The major enforcement activities are in connection with spirits of turpentine and products sold in competition therewith, the names of which are also regulated by the Naval Stores Act. Enforcement and service inspection activities during the past 25 years and the nature of the product itself have reduced violations of the rosin regulatory provisions of the Act to the point where the amount of regulatory work required for rosin is relatively minor. The following table itemizes regulatory operations for the last two fiscal years:

	1945	1946
Lots officially sampled	174	213
Firms represented	39	52
Informal or investigational samples ...	8	19
Lots involving violations	19	30
Citations	0	0
Firms receiving informal notification		
or warning	11	19
Prosecutions completed	0	0

Research Activities: The primary work in research is in the development of test procedures, including the methods of detecting the presence of adulterants, softening points of rosins, improvements of procurement specifications and test procedures related thereto. This work is conducted in collaboration with the American Society for Testing Materials. Among the major accomplishments of the research work have been the development of methods for detecting and estimating the extent of mixing or adulteration of turpentine with another kind of turpentine, as well as with various other kinds of adulterants. Standardized procedures for sampling and grading rosin, which have been adopted throughout industry, have shown consumers the way to check deliveries of this material. This work is conducted in Washington and in the field.

Inspection Service Activities: This work falls into two categories:

- (1) inspection as a service to producers, processors and dealers, and
- (2) inspection on Government purchases for compliance with purchase specifications. The work is conducted chiefly in the naval stores producing states of Alabama, Florida, Georgia, Louisiana, Mississippi, and South Carolina. A Federal inspector is headquartered in each of the following cities: Daphne, Alabama; Mobile, Alabama; Valdosta, Savannah, and McRae, Georgia. Upon request of producers, dealers, and other interested persons, these inspectors classify, grade, weigh, and certify the lots of turpentine or rosin at the stills or plants where produced, or at concentration warehouse points, by comparison with official Government standards. This enables the producer, and the consumer, to know the kind and grade of naval stores offered. The following table reflects inspections made for producers in recent fiscal years:

Inspection for Producers

Number	1944	1945	1946
Barrels and drums of rosin inspected and certified	239,456	164,994	114,214
Rosin inspection certificates issued	10,875	8,625	3,462
Lots of turpentine inspected and certified...	201	677	143
Drums of turpentine certified	2,561	9,300	2,247
Samples of turpentine and rosin tested and analyzed on request in the Washington Laboratory	92	99	11

Service inspection work for Government Purchase Programs has also been carried on in connection with the contractual purchase of naval stores products for shipment abroad to meet export and rehabilitation and relief programs as shown in table below. Vendors are required to have deliveries inspected and certified before shipment to insure compliance with specifications.

Inspection for Vendors on Government Purchases

Number	: 1944	: 1945	: 1946
Lots inspected	49:	59:	50
Drums of rosin certified in field	1,970:	6,691:	11,528
Drums of all other naval stores certified	5,473:	12,053:	1,839
Samples analyzed	13:	44:	11
Lots rejected and replaced	-:	2:	-

Preparation and Maintenance of Rosin Standards: Five new sets of naval stores official rosin standards made of glass were assembled and issued to processors of naval stores during fiscal year 1946, and five sets were recalled for overhaul and repair. During the year, 73 sets of standards were out on loan.

Revenue: During the fiscal year 1946, inspection fees and charges for loan of rosin standards amounted to \$5,397. This sum, representing about 16 percent of the naval stores appropriation, was covered into the Treasury as miscellaneous receipts.

(q) Insecticide Act

Objective: To insure that the insecticides and fungicides purchased by farmers and other users are not adulterated, misbranded, or worthless.

The Problem and Need for Federal Supervision: The growth of the insecticide and fungicide industry in recent years has been very rapid. According to best estimates there are now more than 18,000 different brands of insecticides and fungicides on the market and the number is increasing. These products are distributed by about 5,000 manufacturers, and, in one form or another, are used by almost every farm, home, and business in the country. In view of the \$200,000,000 spent annually for insecticides and fungicides, consumers should have some guarantee that the products will accomplish what the labels claim.

Farmers' Income Affected by Pest Control: Insecticides and fungicides are important to the farmer, since success or failure of crops and health of livestock depend upon the use of effective compounds, properly applied. The farmer generally knows the qualities of the ingredients of an insecticide, but he is at a loss to know their effectiveness when blended into a compound. For example, it is now widely recognized that DDT is an excellent insecticide, but the farmer or other purchaser is in no position to ascertain the value or effectiveness of a percent of DDT blended with other ingredients. Consumers of insecticides and fungicides usually are unable to check the accuracy of claims made for various compounds nor analyze them to see if they contain ingredients stated on the labels.

New Products on Market: War-developed mixtures have presented the most pressing problem in recent months. New insecticides and fungicides developed for the armed forces during the war are being released to the public in large quantities. These include benzene hexachloride, DDT, and many other compounds. This sudden release of new preparations, together with the public demand, revolutionized the insecticide business of the country. There is almost no sale for an insecticide unless it can advertise one of the new ingredients. As a result, the formulas of old products are being changed; many new manufacturers have come into the field; labeling and advertising literature has been revised to attract public attention. Official recommendations are lacking for many uses. The limitations and dangers of these new compounds are not generally known. Careful supervision is necessary to see that they are prepared according to specification, truthfully labeled as to ingredients and purpose; and that attention is called to peril or risk in application.

Federal Supervision Protects the Farmers: The Insecticide Act provided for Federal action to meet these problems by authorizing the Department to set labeling standards and enforce compliance with these standards. Under the Act the Department conducts programs to: (1) prevent violations, (2) detect violations and take appropriate legal action, and (3) develop testing methods and chemical analysis for improvement of the industry. The program to prevent violations, recently inaugurated, has been effective and popular with the trade associations. Since its inception, manufacturers and distributors have shown a keen interest in

submitting proposed labels and formulas for an opinion as to legality before placing their products on the market. Correct labeling before the product reaches the market has minimized violations of the act in spite of the rapid changes now taking place in the insecticide industry. Violations are detected by analyzing and testing samples of insecticides and fungicides shipped in interstate commerce. Upon determination that the labeling fails to comply with the requirements of the Act, the manufacturer is required to correct the label or prepare his compound according to specification.

American Chemistry Keeps up with the Times: New insecticides and fungicides often require special analyses. It is necessary to develop new analytical methods to determine the contents of these recent compounds and new methods for testing their effectiveness. New insecticides and fungicides usually act differently from the old line products. For example, DDT is much slower in killing action than some of the older compounds, since its effectiveness frequently depends upon contact with residues left on surfaces. The above determinations have to be made before chemists, entomologists and plant pathologists can certify that these new commercial products contain the ingredients and will do the job as effectively as advertised on the label.

Progress Made During 1946: Special assistance to manufacturers in the form of an advisory service designed to speed up label correction, particularly for products containing DDT, supplemented the usual regulatory procedure. Early in the year a notice to the trade was issued encouraging manufacturers to submit proposed labels and formulas for comment as to their legality. The response to this invitation was overwhelming and required shifting of personnel to review labeling and reply to correspondence. As an aid to manufacturers, a trade notice on the labeling of insecticides containing DDT was issued. This notice received wide publicity and was helpful to manufacturers in preparing labels. It also served as a basis for numerous magazine articles all of which helped to overcome false impressions made by earlier extravagant statements on DDT. During the year, over 6,000 labels were examined. In addition, numerous telegrams and long distance telephone calls with respect to labeling problems were answered.

Volume of Sample Collecting and Testing: During 1946, a total of 1,906 samples were tested and reported. Of these samples, 22 percent were adulterated or mislabeled. The violations in the case of about 15 percent of those reported were sufficiently serious in nature to justify legal action. Violations of a less serious nature were adjusted through correspondence. Samples of 152 additional products are being further tested to determine the truthfulness of the claims made for them. Over 25 percent of the samples tested during the year were new to the records, that is, no products bearing the same name had previously been collected. In addition many others had been changed in composition without change in name, of which many were unfamiliar types requiring new testing methods. Seizure action was taken on 13 shipments of 11 products made by 11 different manufacturers thereby removing them from trade channels. Twenty-six criminal action cases, involving 18 products marketed by 15 different manufacturers, were submitted for possible prosecution.

The following table shows the number of samples collected and analyzed during the fiscal year 1946, compared with 1945, and estimated collections and analysis for 1947 and 1948, based upon actual performance during the first quarter of 1947.

Samples Collected and Laboratory Analysis Made in
1945 and 1946 and Projection for 1947 and 1948

Item	1945	1946	1947 (Estimate)	1948 (Estimate)
Samples Collected ...	1,980	2,125	2,200	2,200
Samples Analyzed	1,937	1,906	2,200	2,200
Samples Analyzed <u>1/</u> (New to records)	509	544	800	800
Violations	430	419	510	510
Analytical Man Years <u>2/</u>	10.6	10.5	11.3	11.3
Samples Analyzed per				
Man-year	182	181	195	195

1/ Samples on products new to records are much more difficult to analyze since they usually contain new substances and involve new methods of analysis.

2/ Excludes chemist man-years devoted to supervisory work and development of methods.

Chemical Analysis and Testing Procedures:

Chemical Methods: Analytical methods for the determination of DDT in the technical and pure compounds were devised, published, and a large number of copies distributed by request to manufacturers, State laboratories and other agencies.

With the appearance of the aerosol bomb insecticides on the market, a method giving complete instructions for the recovery and assay of their active ingredients was prepared. Cyclohexanone, an excellent solvent for DDT, and a constituent in many aerosol insecticides, slightly interferes with the official determination of Pyrethrin I and seriously with Pyrethrin II. A study of the degree of interference was made. The methods for the complete analysis of Liquor Cresolis Saponatis and Emulsifying Disinfectants were revised to take into account formulae changes. Other methods that were devised and sent to the chemists in the field stations included: "Colorimetric method for the Detection of DDT in Insecticidal Powders"; "Method for the Determination of the Setting Point of DDT"; and "Determination of water in Germicides and Disinfectants containing water, Isopropyl Alcohol, Soaps with Phenols, Pine Oil, etc."

Entomological and Fungicidal Testing: The majority of the agricultural insecticides and fungicides tested consisted of organic materials recommended for vegetable insects and plant diseases. These included

many materials of new and untried composition and frequently they were found to be ineffective against one or more of the types of insects and fungi which they were intended to control. Several insecticides and fungicides were found to be injurious to vegetation. For example, DDT has been found to be outstandingly effective in the elimination of disease-carrying insects when correctly used. Improperly used, it is poisonous to man and kills birds, bees, and fish. It is found to be ineffective in the control of some of our most harmful insects, such as the Mexican bean beetle and the cotton boll weevil.

Again, the aerosol bomb, a new method of applying insecticides, shows great promise for use in killing household insects, particularly flies and mosquitoes. However, as with many new products, there has been a tendency to exaggerate its efficacy. To properly control labeling of aerosol bombs, it is necessary to determine their limitations. For example, some bombs tested have been found relatively ineffective against insects such as roaches, moths, and bedbugs.

(r) Commodity Exchange Act

Objective: To assure effective enforcement of the Commodity Exchange Act providing federal regulation of commodity exchanges and supervision of futures trading in order to:

1. Prevent price manipulation and corners on commodity exchanges;
2. Prevent dissemination of false and misleading crop and market information tending to influence prices;
3. Protect hedgers and other users of the futures markets against cheating, fraud, and abusive practices;
4. Insure the benefits of membership privileges on contract markets to cooperative associations of producers;
5. Insure trust-fund treatment of margin moneys and equities of hedgers and other traders, and prevent the misuse of such funds by brokers;
6. Provide public information regarding trading operations.

The Problem and Need for Federal Supervision: The commodity exchanges play an important part in the marketing and distribution of agricultural products. Although the exchanges themselves are not engaged in buying or selling commodities, they provide the market place and make the rules governing trading in millions of tons annually of grains, fibers, fats, foods, and feeds.

Hedging Through Futures Provides Insurance: The futures markets furnish hedging services, a special kind of insurance against the hazards of price fluctuations. This finds wide use by dealers, processors, and cooperative marketing associations. Without it, distributors would be required to exact larger handling charges and thus increase marketing costs. To a large extent futures prices are used as base prices for the purchase and sale of commodities on spot or cash markets by grade, location, and time of shipment. Futures prices are disseminated quickly and widely by telegraph and radio and provide farmers, dealers, and merchandisers a ready measure of current prices.

Futures Markets Peculiarly Susceptible to Abusive Practices: The futures markets are peculiarly sensitive to influences of every kind affecting price. At times they forecast the effect of events long in advance of the actual impact upon supply and demand conditions. Because of their sensitive responses, futures markets are susceptible to manipulation and abuse. The conditions under which trading must be conducted to facilitate speedy execution of orders lend themselves to cheating and sharp practices not easily discoverable by the victims of these practices. Futures commission merchants hold vast sums of money representing

customers' margins and equities. The temptation ever present is to use such funds to finance the firm's own operations or the operations of favored large-trader customers. The public interest, therefore, requires that these markets operate under close scrutiny in order that they may serve their legitimate functions in marketing.

Federal Supervision Provided by Act:

1. Registration Required: Under the terms of the Commodity Exchange Act, exchanges desiring to conduct futures markets must qualify for designation by the Secretary of Agriculture as contract markets. Registration as a condition for doing business is required annually of commission merchants and floor brokers handling futures transactions for customers.
2. Reports of Trading for Market Supervision and Public Knowledge: Clearing firms of contract markets report daily the volume of trading in all futures and also the amount of open contracts outstanding in such futures. The reports give basic facts on the markets, indicate unusual activity on the part of individual firms, and enable supervisors to narrow their search for possible manipulative trading. These data are compiled and released daily to the public so that all may have the benefit of the same information.
3. Speculative Limits are Fixed: Individual traders are also required to report their trades and the size of their commitments when they equal or exceed certain limits fixed by regulation. Speculative trading limits are fixed from time to time upon the size of speculative positions that may be held or controlled by any individual or firm, and upon the amount of speculative trading individuals and firms may do during any one business day. Reports are scrutinized for indications of possible manipulative tendencies on the part of traders.
4. Customers Protected by Audits: Periodic audits are conducted of the books and records of registered futures commission merchants to see that margin moneys and equities of hedgers and other customers are segregated and not commingled with capital funds or used to extend credit to persons other than the owners. Periodic surveys or spot checks are required to insure compliance with the provisions of law against cheating and fraudulent practices.
5. Complaints are Investigated and Corrective Action Taken: Persons and firms found to be violating provisions of the Act or the regulations are cited for administrative hearings or are referred for criminal action, as the case may require. Administrative action takes the form of denial of trading privileges on all contract markets or suspension or revocation of the offender's registration. Criminal proceedings lead to the imposition of fines or imprisonment, or both. Minor and inadvertent violations are handled by obtaining stipulations of compliance from offenders.

Progress in Supervision of Markets. The following paragraphs describe the work performed under the Commodity Exchange Act. At the end of the descriptive material appears a statement of activities which shows the costs of administration of the Commodity Exchange Act from 1941 through 1946 and the estimated costs for 1947 and 1948. The man-years for each activity and data on the volume of work handled are also indicated wherever possible. 1/

1. Licensing: The work of registering futures commission merchants and floor brokers and of reviewing exchange rules remains relatively constant from year to year. During 1946, 510 floor brokers and 584 futures commission merchants with 1,548 offices were registered at a cost of approximately \$16,500. This cost was substantially offset by registration fees of \$13,410 which were collected and deposited to the Miscellaneous Receipts account of the Treasury.

2. Supervision of Trading: Trading in 15 commodities on 15 contract markets was supervised during 1946. Four hundred thousand reports on volume of trading, open contracts, and deliveries, required to be filed by exchange members and large traders, were tabulated and reviewed--a necessary first step in market surveillance. Based upon these reports, figures on total volume and open contracts were released to the public daily. The cost of this phase of the work has remained substantially unchanged since 1941. The review of market letters to prevent dissemination of false and misleading crop and market information, the examination of cash commodity transactions and observance of floor trading were suspended during the war years.

To restrict speculation in rye to amounts which might be regarded as reasonable to meet hedging needs and maintain a freely functioning market, hearings were held in August 1945, looking toward a reduction in the limits of 2 million bushels on individual speculative positions and daily trading fixed in 1938 by the Commodity Exchange Commission. Subsequent to this hearing, the Commission established a limit of 500,000 bushels for positions and daily trading, effective December 3, 1945. This action contributed largely to the reduction in trading volume as compared with the previous two years and greatly lessened the influence and power which might be exerted by an individual trader or group of traders upon the rye market. On November 6, 1946, the Commodity Exchange Commission issued a notice of hearing respecting a proposed reduction in the limit on the speculative positions and daily trading of any individual in cotton futures from 30,000 bales in any one future to 30,000

1/ During the fiscal year 1941 detailed records were maintained showing the actual time spent and the cost of the various classes of work of the Commodity Exchange Authority. The distribution for subsequent years is based on analyses of payrolls and budget documents.

bales in all futures combined. There is every indication of increased speculative activity in 1948. Continuous scrutiny of market activities through examination of traders' reports and of market letters is essential to adequate administration of the Act and to protect farmers against abusive market practices.

3. Audits: Accounting examinations of brokerage firms registered as futures commission merchants are made to determine whether customers' funds are properly segregated and separately accounted for as required by the Act. In 1946, 202 segregation audits were made. With the funds available with which to conduct the program in 1946, only about one-third of the 584 futures commission merchants could be covered. Since 1943, it has been necessary to limit the audit program principally to the larger firms. It is essential to the public interest to audit annually all registered brokerage firms. Such firms hold large sums of money belonging to producers, dealers, cooperative associations and other customers. Under the Act these funds must be treated as trust funds. The inadequacy of the present audit program has resulted in many deviations from required segregation procedure.

4. Compliance Investigations: In fiscal years 1941, 1942, and 1943, trade practice surveys were conducted, principally in wheat, corn and cotton, and covered from 1 to 3 1/2 percent of the transactions in these commodities. These surveys were discontinued during fiscal years 1944, 1945 and 1946 due to lack of funds.

Trade Practice Surveys: The 1941-43 examinations uncovered a very large number of irregularities involving bucketing, wash trading, cross trading and similar practices. Among the motives for such transactions are the cheating of customers through execution of orders at incorrect prices and the creation of a fictitious volume of trading. Fictitious trades are also made to create the appearance of losses for tax evasion purposes; such cases are brought to the attention of the Bureau of Internal Revenue. Remedial measures were taken to prevent the recurrence of the large number of these irregularities which were not made the subject of formal action. Special committees were set up and more rigid rules were promulgated by the exchanges to stamp out the abuses, but the adequacy of these measures could not be determined because of suspension of the surveys in 1943.

The surveys have been resumed in fiscal year 1947. Regular survey examinations are necessary to ascertain whether preventive measures are effective or whether irregularities are continuing in the same or in more concealed forms. Trade practice surveys have a most wholesome effect in preventing the occurrence of violations, and are an essential part of the enforcement work under the Act since they bring to light violations that can be detected in no other way.

Complaints and Violations Investigated: Investigation of complaints and violations is necessarily a continuing function. In 1946, six complaints, charging various violations of the Commodity Exchange Act, were issued during the year, and hearings were held on one complaint issued in the year 1945. Three of the complaints were pending at the end of the fiscal year, and action on four cases is indicated below:

(a) General Foods Corporation, et al: Hearings were completed on the complaint filed May 26, 1945, charging General Foods Corporation, Daniel F. Rice, and others with cornering and manipulating rye and rye futures contracts on the Chicago Board of Trade in May 1944 and prior thereto. The following sanctions were proposed by the referee in a report dated September 10, 1946:

Revocation of registration of Daniel F. Rice and Company as a futures commission merchant.

Suspension for 60 days of the registration of Lawrence J. Ryan as a futures commission merchant.

Suspension for 60 days of the registration of Philip R. O'Brien as a floor broker.

Denial to respondents, the General Foods Corporation, Charles W. Metcalfe, Daniel F. Rice and Company, and Daniel F. Rice, of all trading privileges on contract markets for one year, and to Lawrence J. Ryan and Philip R. O'Brien, for 60 days.

(b) Reuben Earl McGuigan: In a complaint issued on January 3, 1946, the respondent was charged with manipulating and attempting to manipulate commodity futures prices by means of the operation of a market forecasting or "tipster" service. The respondent waived hearing and an order was issued under date of April 11, 1946, denying trading privileges on all contract markets until further notice by the Secretary of Agriculture.

(c) Glenn L. Martin and Henry L. T. Ullrich: The facts in this case indicated that the violation was committed by Ullrich acting as agent for Martin, without Martin's knowledge. Consequently no penalty was assessed against Martin; Ullrich was denied trading privileges for five days.

(d) A. Feldstein: After hearing on charges of willful failure and refusal to report futures transactions in eggs in the Chicago Mercantile Exchange, Feldstein was denied trading privileges on all contract markets for 90 days.

Stipulations of Compliance: In five cases violations were found but complaints were not issued. In each case a stipulation of compliance was executed by the subject, thus disposing of these cases in accordance with a procedure provided in the rules of practice. Two of these cases

covered individuals operating as futures commission merchants without having complied with the registration requirements of the Act. Two involved failure to comply with reporting requirements of the Act. The last case involved a registered futures commission merchant who for a period of time through faulty accounting methods was not in compliance with the segregation requirements respecting customers' funds.

5. Analysis and Appraisal of Futures Trading, Cash-Futures Relationships and Price Movements: The analysis of exchange practices and operations and their effect upon marketing conditions and upon farm and market prices was suspended in the fiscal year 1944.

Statement of Activities Relating to Administration of the Commodity Exchange Act
Fiscal Year 1941 to 1948

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	1941	1942	1943	1944	1945	1946	(Est.)	(Est.)
	1/	2/	2/	2/	2/	2/	1947	1948
1. Licensing:								
a. Registration of futures commission merchants and floor brokers								
Number of registrants	1,372	1,354	1,032	973	1,008	1,094	1,200	1,400
Man-years work required	5	6	5	5	5	5	5	5
Cost	\$15,200	\$20,507	\$18,000	\$16,000	\$16,000	\$16,565	\$18,700	\$19,043
b. Contract market designation (review of exchange rules)								
Number of contract markets	18	18	18	18	18	18	18	18
Man-years work required	5	5	4	4	4	4	4	4
Cost	\$14,555	\$14,559	\$14,000	\$15,000	\$15,000	\$15,250	\$17,000	\$17,400
Total:	10	11	9	9	9	9	9	9
Man-years	\$29,755	\$35,066	\$32,000	\$31,000	\$31,000	\$31,815	\$35,700	\$36,443
Cost								
2. Supervision of trading:								
a. Tabulation and review of reports from exchange members and large traders								
Number of reports	527,000	510,000	482,000	442,000	396,000	400,000	450,000	525,000
Man-years work required	70	69	50	51	52	47	51	59
Cost	\$183,367	\$195,406	\$181,940	\$185,000	\$191,500	\$181,740	\$209,340	\$244,755
b. Establishment and enforcement of speculative limits, activities with control committees of contract markets and quotations service								
Man-years work required	8	10	4	4	4	5	6	7
Cost	\$20,496	\$28,223	\$15,000	\$15,000	\$14,500	\$19,015	\$22,500	\$29,731

	1941	1/	1942	2/	1943	2/	1944	2/	1945	2/	1946	2/	(Est.)	(Est.)
	:	:	:	:	:	:	:	:	:	:	:	:	:	:
5. Analysis and appraisal of futures trading, cash-futures relationships and price move- ments:	:	:	:	:	:	:	:	:	:	:	:	:	:	:
Man-years work required	41:	32:	20:	1:	-	-	-	-	-	-	-	-	-	-
Cost	\$114,313:	\$100,961:	\$58,560:	\$5,000:	-	-	-	-	-	-	-	-	-	-
Total, all activities	:	:	:	:	:	:	:	:	:	:	:	:	:	:
Man-years	203:	196:	130:	90:	90:	90:	86:	116:	145					
Cost	\$615,000:	\$632,765:	\$469,587:	\$348,581:	\$348,797:	\$341,500:	\$521,000:	\$650,000						

1/ Data for 1941 from cost and time records maintained during that year.

2/ Distribution for 1942 to 1946 based on budget estimates and payroll analyses.

3/ Increased size of some brokerage firms through absorption of smaller houses since 1941 and increased scope of audits because of infrequency in the war period are important factors affecting the average number of audits per accountant.

(s) Freight Rates For Farm Products

Objective: To increase the net income of farmers and expand the outlets for their products by assuring reasonable transportation cost on farm products moving to market and on farm supplies and materials.

The Problem, and Farmers Need for Assistance: The current value of agricultural products is estimated at more than 25 billion dollars annually. One of the major dollar costs in marketing this tremendous production is transportation charges. More than 6 cents out of every dollar spent for farm food products goes to pay transportation costs. This means that more than 1-1/2 billion dollars is spent annually in moving farm products to market. Savings in transportation charges and improvement in services will reduce this enormous cost and result in a net increase in farm income.

In order to produce 25 billion dollars worth of agricultural products, farmers spend hundreds of millions of dollars for farm material and supplies. Here, again, transportation costs are a major item, and savings resulting from adjustment in freight rates increase the net income of farmers.

The transportation field is highly technical, and trained specialists are required to obtain rate adjustments. Neither the individual farmer nor the farm cooperative is in a financial position to employ the necessary technical assistance to analyze transportation problems and adequately present cases before the Interstate Commerce Commission and other regulatory bodies on the problems of freight rates, charges, tariffs, and practices.

In contrast to this situation, the carriers with highly paid, permanently employed specialists are constantly in a position to make excellent cases before all regulatory bodies for higher rates and charges or against any reduction in such charges.

Method of Operation: The transportation rate and traffic work is accomplished through both formal and informal proceedings with the carriers, rate-making bureaus, and regulatory bodies in obtaining new rates, rate adjustments, transit arrangements, etc. Specialists in transportation and marketing activities watch developments closely to determine whether adjustments should be made in rates pursuant to shifts and changes in the volume of goods, competitive situations, and new systems of marketing.

Surveys of tariffs and transportation practices are being made constantly. A close relationship is maintained with producers and trade groups in all parts of the country to obtain data for presentation before the Interstate Commerce Commission, the Maritime Commission, and related State and Federal Agencies.

Progress During 1946: Rate adjustments completed during the year ranged from reductions in rates on particular commodities between specified points to adjustments that covered the entire country on groups of commodities. Actions taken have reduced the marketing cost of every farm product. This, in turn, has benefited farmer and consumer alike in every State of the Country. While most of the savings accomplished through lower freight rates went to farmers and the public generally, there was also an indirect saving of several million dollars to government agencies.

Financial Savings to Farmers; Number of Cases Handled in 1946: The cumulative savings on adjustments which can be measured in monetary terms aggregate approximately \$761,700,000 from services rendered under this appropriation since its inception in the fiscal year 1940. Rate actions in which the Department has participated brought savings estimated at \$206,500,000 in charges for transporting farm and food products during 1946.

During the fiscal year 1946 alone the Department participated in 43 formal dockets, 11 investigation and suspension dockets, 7 financial dockets before the Interstate Commerce Commission, and 7 formal dockets before the Maritime Commission. There were also some 50 rate and regulation items which were negotiated directly with the carriers or their agents.

The following table shows by categories cumulative savings which have resulted from this work:

Total Estimated Savings Resulting from Transportation
Actions under Section 201 of Title II of the Agricultural
Adjustment Act of 1938, through June 30, 1946

<u>Commodity</u>	<u>Estimated Savings Fiscal Year 1946</u>	<u>Estimated Cumulative Savings</u>
Grains	\$ 1,200,000	\$ 6,000,000
Fruits and Vegetables	16,000,000	81,600,000
Fertilizers	46,200,000	160,000,000
Cotton and Wool	7,200,000	43,100,000
Livestock	1,000,000	4,800,000
Meat, Dairy and Poultry Products	800,000	10,000,000
Export Rates; Terminal & Wharfage Charges, Bridge Arbitraries; & Motor Carriers ...	58,400,000	191,000,000
Ex Parte 148 (All Commodities)	75,000,000	262,500,000
Miscellaneous Commodities	700,000	2,700,000
Total	<u>\$206,500,000</u>	<u>\$761,700,000</u>

In addition to the savings listed above, there were many other actions taken during 1946 and in previous years, the financial benefits of which cannot be accurately determined. It is estimated that the combined savings in these actions would amount to \$150,000,000 since the start of the work under this appropriation. This would bring the total estimated savings to about \$900,000,000.

Examples of Cases Handled and the Benefits Obtained during the Fiscal Year 1946:

Ex Parte 162: The most important single rate case participated in by the Department during the year (Ex Parte 162) was one in which the railroads attempted to obtain without a hearing a general increase of 25 percent on nearly all freight rates. The railroads based their case primarily on an estimate of an approximate 20 percent reduction in traffic and the increased operating expense resulting from increased wages and material costs. The Department believed that the estimates of falling traffic were unduly pessimistic and that the conditions of the carriers was not so precarious as to require a general rate increase so quickly as to make it impossible to take time for a proper hearing. The Interstate Commerce Commission agreed with the contention of the Department that no increase should be granted without a hearing.

As a result of the hearing the Interstate Commerce Commission ruled that instead of the 25 percent increase requested by the carriers, the increases effective July 1 should be 3 percent on all unmanufactured agricultural products and 6 percent on most other commodities, with an additional 5 percent charge to be levied on all freight in limited areas. The Commission further ruled that at a later date a number of hearings would be held in different parts of the country in order to determine all the facts of the situation. The final decision of the Commission in December 1946 granted total increases on farm and food products averaging between 16 and 17 percent instead of the 25 percent requested by the carriers. The difference between the increase sought and that granted on farm and food products will amount to about \$150,000,000 per year.

Wool Rate Investigation: The Department contents that wool freight rates are definitely out of line, that readjustments are necessary and that the evidence which has been presented to the Interstate Commerce Commission will amply support this conclusion. The first hearings on this case were held at Chicago, Illinois, and were followed by further hearings at Ft. Worth, Denver, Salt Lake City, Portland, and San Francisco. During the hearings, 125 exhibits were introduced and 100 transportation specialists, rate experts, economists, producers and marketers participated as witnesses on behalf of the producers. Up until the end of the fiscal year only the evidence of the protestants in the case had been received. The railroads have been instructed by the Commission to distribute their exhibits in the very near future, following which it is expected that further hearings will be called to permit the necessary cross-examinations.

Fertilizer Rate Investigations: The record making production of farm crops during World War II caused excessive drain on the fertility of the soil. This has necessitated a more aggressive program of land fertilization.

To maintain rates on fertilizers and fertilizer materials on a proper and reasonable basis, the Department has inaugurated many rate adjustments on its own account and has intervened in various formal complaints

filed by fertilizer manufacturers. Listed below are instances of the latter type of activities.

a. Phosphate Rock from Pebble Rock District in Florida to Sheffield, Alabama - This complaint was filed on February 25, 1946, by the Tennessee Valley Authority against the Atlantic Coast Line, et al. It is alleged that the rate on phosphate rock from Florida origins in the Pebble Rock District to Sheffield, Alabama, is too high and in violation of Section 1 of the Interstate Commerce Act. The TVA manufactures fertilizers, fertilizer materials, superphosphate, and defluorinated phosphate rock at Sheffield. A reduction in the rate to Sheffield will be passed on to farmers all through the South and adjacent territories. Several farm organizations and cooperative associations, including the Illinois Agricultural Association, have requested the U. S. Department of Agriculture to intervene in the proceeding in behalf of the complainants.

b. Phosphate Rock from Pebble Rock District in Florida to Destinations in Georgia, South Carolina, and Alabama - The International Minerals and Chemical Corporation filed this complaint against the Atlantic Coast Line, et al, on December 20, 1945. It is alleged that the rates on phosphate rock from Florida mines, particularly those located at Prairie, Florida, to Americus, Augusta, Columbus, East Point, and Tifton, Georgia; Hartsville, Lancaster and Spartanburg, South Carolina; and Florence and Montgomery, Alabama, are too high and in violation of Section 1 of the Interstate Commerce Act. The complainant owns and operates fertilizer manufacturing plants at the destination points named and distributes fertilizing materials to the producers of agriculture at those points and in the vicinity of those points. Any reductions in the freight rates obtained on phosphate rock will be reflected in the ultimate price of the fertilizer sold to the farmer. The Department of Agriculture is intervening in behalf of the complainant.

Program Expanded to Include Water Transportation: During 1946 for the first time, the work on transportation rates included water transportation. To insure the best possible approach, a study is being made of all features of export shipping requirements, such as shippers' declarations, consular invoices, steamship conference agreements, boat charges of various types, differentially lower export railroad freight rates, and the publication of equitable ocean freight rates from American ports to foreign ports. A survey will also be made on intercoastal, coastwise, Great Lakes and inland waterways to find out what adjustments in rates and services are needed to facilitate the use of these means of transportation where they are economically suited for moving farm products.

(t) Salaries and Expenses, War Food Administration

This Budget schedule covers obligations incurred during the fiscal year 1946 under an appropriation made to the War Food Administration. The War Food Administration was abolished June 30, 1945, and its functions transferred to the Secretary of Agriculture.

(u) Supply and Distribution of Farm Labor,
Department of Agriculture

This Budget schedule covers estimated obligations, on a fiscal year basis, under the calendar year appropriation for the supply and distribution of farm labor to assist in providing an adequate supply of agricultural labor for the production, harvesting, and preparation for markets of agricultural commodities. The present appropriation expires June 30, 1947.

(v) Emergency Supplies for Territories and Possessions
of the United States
(Liquidated)

This wartime program was discontinued in December, 1945, as private merchants were able to resume normal operations. The program was put into operation immediately after the attack on Pearl Harbor. It was necessary during the war for the Department to procure, transport, and distribute agricultural commodities to meet civilian needs of territories and possessions of the United States. Food stocks in the Caribbean and Hawaiian areas were insufficient for civilian requirements and commercial distribution was disrupted because of submarine warfare.

Status of the Appropriation: A revolving fund of \$35,000,000 was provided by Congress (Public Law 371, 77th Congress, approved December 23, 1941). Since discontinuance of the program, \$28,800,000 was rescinded by Public Law 301, 79th Congress, approved February 18, 1946, and Public Law 391, 79th Congress, approved May 27, 1946, leaving \$6,200,000 of the original appropriation. Of this amount \$4,158,699 was expended for administrative costs for the entire program. There was a profit on program operations of \$293,495. The remainder of the fund, \$2,334,796, was returned to the surplus fund of the Treasury on November 5, 1946, by the Department, and any subsequent claims for and against the appropriation are to be settled by the General Accounting Office.

Resume of Activities in Fiscal Year 1946: All deliveries under this program ceased as of December 31, 1945. During the final six months of the program approximately 49,000 tons of commodities were shipped to the Caribbean area and approximately 39,500 tons were shipped to Hawaii. The breakdown of these shipments is as follows:

<u>Commodity Group</u>	<u>Shipments to</u> <u>Caribbean</u>	<u>Shipments to</u> <u>Hawaii</u>
Dairy Products	3,321	3,748
Grain Products	39,940	32,354
Meat and Fish	5,658	2,616
Other <u>/1</u>	<u>113</u>	<u>853</u>
Total	49,032	39,571

/1 Includes salt, fertilizer, canned and dried fruit.

After December 31, 1945, the offices at Honolulu and San Juan were closed and all records were transferred to Washington where final settlement and reconciliation of accounts was accomplished.

(u) Federal Crop Insurance Corporation

Creation and Purpose

The Federal Crop Insurance Corporation was created February 16, 1938, by the Federal Crop Insurance Act (7 U.S.C. 1501 et seq.) for the purpose of insuring producers of wheat against loss in yields due to unavoidable causes in an amount not to exceed 75 percent of the farm average yield. On June 21, 1941, the act was amended (55 Stat. 257) to include insurance of cotton commencing with the 1942 cotton crop. The Department of Agriculture Appropriation Acts of 1944 (57 Stat. 418) and 1945 (58 Stat. 425) directed that those programs be discontinued after the 1943 crop year except for liquidation of existing contracts.

The Federal Crop Insurance Act was further amended on December 23, 1944 (58 Stat. 918), by reinstating insurance on wheat and cotton and authorizing insurance on flax, commencing with crops planted for harvest in 1945. In addition, the act as thus amended authorized the Corporation to undertake trial programs with respect to insurance of any other agricultural commodities for which sufficient actuarial data are available. These programs were limited by law to corn and tobacco in 1945 and to not more than three additional crops each year thereafter. Each such program is limited to not more than 20 representative counties and to a period of not more than 3 years. It also provided authority to insure against loss of up to 75 percent of the investment in the crop. Otherwise, these programs are subject to the same limitations and conditions as are imposed by the act upon wheat, cotton, and flax insurance.

FINANCIAL ORGANIZATION

Capital funds.--The Federal Crop Insurance Act provides that the Corporation shall have an authorized capital stock of \$100,000,000 (7 U.S.C. 1504a) to be subscribed by the United States of America.

Under the Department of Agriculture Appropriation of 1939 (52 Stat. 746) \$20,000,000 was made available to the Secretary of the Treasury for purchase of capital stock of the Corporation. An additional 20,000,000 was made available for this purpose by the Second Deficiency Appropriation Act of 1940 (54 Stat. 640).

Under the First Deficiency Appropriation Act of 1945 (59 Stat. 77), an additional \$30,000,000 was made available to the Secretary of the Treasury for purchase of capital stock of the Corporation. The Secretary of the Treasury did not subscribe for this additional stock until after June 30, 1945. Since the need for operating funds will necessitate a request for the issuance of additional capital stock, the issuance of \$10,000,000 of capital stock in each of the fiscal years 1947 and 1948 is reflected in the financial statements in the 1948 Budget.

Appropriated funds.--The Federal Crop Insurance Act, as amended (7 U.S.C. 1516a), authorizes annual appropriations by Congress of not to exceed \$12,000,000 for any fiscal year to cover the administrative and operating expenses of the Corporation.

ANALYSIS OF BUDGET PROGRAM BY MAJOR ACTIVITIES

Problem and significance.--Crop insurance has been provided by the Government to protect the farmer against production risks. The need for insurance protection against crop hazards is great. It is particularly needed by those farmers who have no financial reserve to tide them over until another crop can be produced. It also enables farmers as a group to carry their own crop losses by the payment of premiums and aids in the abolition of crop failures as a threat to our agricultural economy.

Crop catastrophes are sometimes widespread and affect a large part of the country. For this reason, private insurance agencies cannot furnish the necessary "all-risk" protection against crop losses. Therefore, the Congress, in the 1938 act and through subsequent legislation, provided the present Federal crop insurance program.

The budget of the Corporation is based on three types of operations: (1) Insurance of cotton, wheat, and flax; (2) insurance of other crops on a trial basis; and (3) administration of its insurance programs.

Insurance program.--The crop insurance program is designed to be self-supporting over a period of years, except for the cost of administration. Variations in weather and crop conditions from year to year preclude the balancing of premiums and indemnities each year. It is the policy of the Corporation to determine premium rates actuarially so that over an extended period the premiums collected will cover the amounts paid out as indemnities. Therefore, premium rates are established on the basis of the average expected loss over an extended period of years. In addition, premiums have been increased by 10 percent in order to provide a reserve against unforeseen losses.

All-risk crop insurance was available to producers of wheat for a period of 5 years, 1939-43, and to producers of cotton for 2 years, 1942-43. The Corporation was in the process of liquidation from July 12, 1943, until December 23, 1944. Accordingly there was no insurance offered on 1944 crops or on winter wheat planted for harvest in 1945. Under the program as reinstated, the Corporation began insuring the 1945 crops of spring wheat, cotton, and flax and to insure corn and tobacco crops on a trial basis in 15 and 13 representative counties, respectively. During the 1946 fiscal year 164,444 contracts were in force on 1945 crops; the number of contracts in force increased to 451,351 for the fiscal year 1947 on 1946 crops, and it is estimated that the number of contracts in force will increase to 720,000 during the fiscal year 1948 on 1947 crops.

Since the revival of the program in 1945, the Corporation has been using a plan of progressive insurance protection. It has been found from experience that some of the heaviest losses in previous wheat and cotton programs resulted early in the season or when the damaged crop was not harvested. Frequently, in such cases a grower could obtain greater net income from an indemnity than from a crop since he did not incur the full cost of producing and harvesting it. Under the plan of progressive insurance, protection increases progressively with the advancement of

the growing stages and harvesting of the crop. The plan for progressive insurance protection avoids over-insurance and is consistent with the principle that insurance should give protection only against loss and not provide an opportunity for profit.

In the 1947 crop year cotton program, a plan is being tried that will eliminate a substantial part of the cotton storage and handling expense. Under the plan a fixed price will be used each year for converting premiums and indemnities (determined in pounds of cotton) to a dollar basis. Purchasing and holding commodities for protection against price fluctuation will be necessary only with respect to reserves carried over from year to year.

The Federal Crop Insurance Act, as amended (7 U.S.C. 1508c), provides that after the crop year 1949, if the total amount of accumulated claims for losses on any agricultural commodity for any year exceeds the total funds available for the settlement of such losses, the claims shall be paid on a pro rata reduced basis.

Trial insurance programs.--In order to determine the method by which crop insurance could be economically established on sound principles and methods of operation, the Corporation, when its insurance programs were reestablished, was authorized to undertake trial programs on corn and tobacco in 1945 and not more than three additional crops in each succeeding year.

One year of experience has been gained from the completion of the trial insurance operations on the 1945 crops of corn and tobacco. At present the Corporation is adjusting claims for losses on the 1946 crops of corn and tobacco in the second year of the trial program. Present indications are that premiums will exceed indemnities on both of these crops and insurance will be written in the trial areas on the 1947 crops. Premium collections and adjustment of indemnities will be completed on both crops during the fiscal year 1948. However, no authority exists at the present time to carry on insurance operations either on an experimental or Nation-wide basis on these commodities during the 1948 crop year. In view of the fact that insurance operations have been completed on only one year's crop, final results are not available on which to evaluate the experimental programs. The general operating experience with these trial programs indicates the wisdom of trial operations to determine the acceptability of the form of insurance and to establish and eliminate any weaknesses in the original insurance program offered.

The Corporation has not undertaken additional trial insurance operations during either the 1946 or 1947 fiscal years. Consideration, however, is now being given to the advisability of establishing trial insurance on three additional crops in 1948.

Program administration.--The administration of the crop insurance program includes the preparation of insurance contracts, establishing premium rates, taking and acceptance of applications, obtaining reports of acreage planted by insured producers, calculating and collecting premiums, adjusting and paying losses, and accounting for all operations.

An objective of the Corporation is to write insurance which reflects on the average a representative group of farmers of all varying degrees of risk. The widest possible participation is necessary to effect a broad distribution of risk essential to a successful crop insurance program.

The adjustment of losses is an exceedingly important feature of program administration. Proper loss adjustment depends on a carefully selected, well trained, and properly supervised staff of competent claims adjusters. During the past 2 years since reinstatement of the program, the Corporation has been carefully developing and training its own loss adjustment organization in order to meet these requirements.

The Corporation had a total of about \$167,000,000 of insurance in force on the 1945 crops and, because of increased participation, this coverage increased to approximately \$280,000,000 on the 1946 crops. The reductions in the cost of administration by failing to properly service contracts in force and to carefully scrutinize and adjust each loss claim could easily result in a much greater ultimate loss to the Government through program losses.

The Corporation is managed by an active board of directors appointed by and subject to the general supervision of the Secretary of Agriculture. The board members are: The Secretary of Agriculture (chairman), the Under Secretary of Agriculture, and the administrator of Production and Marketing Administration. The Corporation's officers, consisting of a manager and a secretary, are appointed by the board with the approval of the Secretary of Agriculture. The manager is responsible for the administration of the insurance program under the policy and program direction of the board and under the general administrative supervision of the administrator of the Production and Marketing Administration.

Program development and management control are centralized in the principal office of the Corporation located in the District of Columbia (7 U.S.C. 1503). Program administration is decentralized in 3 branch offices and 36 State offices. The branch offices maintain the records and files on all insurance in force; calculate the amount of insurance premiums; receive, audit, and deposit cash collections; audit and pay approved indemnity claims; and maintain books of accounts for all insurance transactions.

The State offices of the Corporation represent the Corporation in the general direction of all phases of the insurance operations in their respective areas. The widespread organization is essential to provide proper supervision and review of adjustment work performed by the Corporation's field force of part-time loss adjustment appraisers. In addition, the State offices are responsible for the final acceptance of applications for insurance approval of rates and yields; review of field operations with a view toward recommending changes and improvements in the program operations; and assistance in the development of sales activities.

In accordance with a cooperative agreement, the county agricultural conservation committees administer the program at the local level (except for the loss adjustment work) including establishing acreage yields and

rates on individual farms, organizing a force for writing insurance contracts, obtaining and checking reports of acreages seeded by insured producers, processing applications, calculating and collecting premiums, and receiving and transmitting notices of losses to the State offices of the Corporation.



(x) Commodity Credit Corporation

Creation and Purpose

Commodity Credit Corporation was created under the laws of the State of Delaware pursuant to Executive Order 8340, dated October 16, 1933, issued by virtue of the authority vested in the President by section 2a of the National Industrial Recovery Act of June 16, 1933 (48 Stat. 195). The act of January 31, 1935, directed that the Corporation should "continue until April 1, 1937, or such earlier date as may be fixed by the President by Executive Order, to be an agency of the United States." The Corporation has been continued until June 30, 1947, as an agency of the United States by successive amendments to the act of January 31, 1935 (15 U. S. C. 713). By section 401 of the President's reorganization plan No. 1 (5 U. S. C. 133t, note) the Corporation was made a part of the United States Department of Agriculture and its operations were placed under the supervision and control of the Secretary of Agriculture.

The charter of the Commodity Credit Corporation authorizes the Corporation, among other things, to engage in buying, selling, lending, and other activities with respect to agricultural commodities, products thereof, and related facilities.

These charter powers have enabled the Corporation to engage in extensive operations for the purpose of increasing production, stabilizing prices, assuring adequate supplies, and facilitating the efficient distribution of agricultural commodities, foods, feeds, and fibers to meet the needs of the war emergency. These operations of the Corporation group themselves into the following major types of programs: A price-support program; a foreign-purchase program; a subsidy program; a supply program; a commodity-export program; and a loan program for agricultural conservation purposes. Many of the Corporation's operations have been carried out in response to specific Congressional mandates. In carrying out its operations, the Corporation has also been subject to certain specific limitations placed upon it by the Congress.

The Corporation's price-support operations have been shaped largely by legislation making it mandatory for the Corporation to provide price support for certain agricultural commodities through loans, purchases, and other operations. Thus section 8 of the Stabilization Act of 1942, as amended (50 U. S. C. App., 968) requires, with certain exceptions, that loans be made to producers upon any crop of the basic commodities--cotton, corn, wheat, rice, tobacco, and peanuts--harvested after December 31, 1941, and before the expiration of the 2-year period beginning with the first day of January immediately following the date upon which the President, by proclamation, or the Congress, by concurrent resolution, declares that hostilities in the present war have terminated. The rate of the loan is required to be 90 percent of parity in the case of all the basic commodities other than cotton and 92½ percent of parity in the case of cotton. In

addition, the act of July 28, 1945 (7 U. S. C. 1312, note), provides a special formula for the determination of the loan rate in the case of fire-cured, dark air-cured, and Virginia sun-cured tobacco. Section 8 of the Stabilization Act of 1942, as amended (supra), superseded the loan provisions of the act of May 26, 1941, as amended (7 U. S. C. 1330, 1340), which required loans to be made at the rate of 85 percent of parity upon the 1941, 1942, 1943, 1944, 1945, and 1946 crops of the basic commodities.

Section 4a of the act of July 1, 1941, as amended, the so-called "Steagall Amendment" (15 U. S. C. 713a-8 (a)), requires the Corporation, during the same period for which loans are required to be made upon the basic commodities; to provide through loans, purchases, or other operations, price support at not less than 90 percent of the parity or comparable price for producers of the nonbasic agricultural commodities for which the Secretary of Agriculture, by formal public announcement, has requested an expanded production to meet the needs of the war emergency. The "Steagall commodities" are: Hogs, eggs, chickens and turkeys, milk and butterfat, dry peas of certain varieties, dry edible beans of certain varieties, soybeans for oil, peanuts for oil, flaxseed for oil, American-Egyptian cotton, potatoes, and sweetpotatoes.

Legislation enunciating the policy of Congress with respect to price support for commodities other than basic commodities or "Steagall commodities" is found in section 4b of the act of July 1, 1941 (15 U. S. C. 713a-8 (b)). Section 4b declares it to be the policy of Congress that the lending and purchase operations of the Department shall be carried out so as to bring the price and income of the producers of such commodities to a fair parity relationship with the basic commodities and the "Steagall commodities" to the extent that funds for such operations are available after taking into account the operations with respect to basic commodities and "Steagall commodities" and the ability of producers to bring supplies into line with demand.

Legislation placing restrictions upon the Corporation's operations has related for the most part to the disposition of agricultural commodities and to the payment of subsidies for the purpose of maintaining price ceilings.

The latest act continuing the Commodity Credit Corporation as an agency of the United States, the act of April 12, 1945 (7 U. S. C. 1381, note) prohibits, with certain exceptions, the disposition by the Commodity Credit Corporation of farm commodities at less than the parity or comparable price for a period of 2 years after the war. However, the act of April 12, 1945 permits the disposal of any commodity below the parity or comparable price if it has substantially deteriorated in quality or if there is danger of loss or waste through spoilage; permits the sale of wheat for feed at less than parity, but not less than the parity price for corn; and permits the sale of farm commodities below parity or the comparable price if they are sold for seed or are sold for new or byproduct uses or, in the case of peanuts, for

the extraction of oil. In addition, the Third Deficiency Appropriation Act, 1946 (Public Law 521, 79th Cong.), permits the sale by the Corporation of processed surplus potatoes of the 1946 crop to foreign countries, United Nations Relief and Rehabilitation Administration, and the Army for the relief of hungry people without regard to the provisions of any other law.

The Surplus Property Act of 1944 (50 U. S. C. App. 1630), also contains a significant exception to the restriction applicable to the disposition of farm commodities. That act authorizes the Corporation to dispose of or cause to be disposed of for cash or its equivalent in goods or for adequately secured credit for export only and at competitive world prices any farm commodity or product thereof without regard to restrictions with respect to the disposal of commodities imposed upon it by any other law. No food or food product may, under the act, be exported if there is a domestic shortage or need of any such food or food product.

Section 2e of the Emergency Price Control Act of 1942, as amended (50 U. S. C. App. 902e), prohibited the Corporation on and after June 30, 1945, from engaging in subsidy operations for the purpose of maintaining price ceilings. This prohibition, however, was relaxed by section 3 of the act of April 12, 1945, as amended (15 U. S. C. 713, note), and by section 6 of the act of July 25, 1946 (Public Law 548, 79th Cong.), which authorized the Corporation to engage in subsidy operations within specified limitations.

The Congress has also taken action to make certain that Commodity Credit Corporation would not suffer losses in connection with its operations undertaken to supply other Government agencies with their food requirements. Thus section 4 of the act of July 16, 1943 (15 U. S. C. 713a-9), requires that the Corporation be fully reimbursed for services performed, losses sustained, operating costs incurred, or commodities purchased or delivered to or on behalf of any Government agency, from the appropriate funds of such agency.

The Corporation is subject to the restrictions contained in the Government Corporation Control Act which provides that purchases or sales of obligations issued or guaranteed by the United States in excess of a stated amount shall be subject to the approval of the Secretary of the Treasury and that the Corporation shall submit to the Congress for its consideration an annual budget program. In addition, the Corporation is subject to a commercial type audit by the General Accounting Office (15 U. S. C. 713; 12 U. S. C. 1804; 31 U. S. C. 841).

In addition, the Congress has limited the period during which the Corporation is authorized to function as an agency of the United States. This restriction has made it necessary to obtain Congressional action at least every 2 years authorizing the Corporation to continue as an agency of the United States. The act of April 12, 1945 (59 Stat. 50), continued the Corporation as an agency of the United States until June 30, 1947. Legislation seeking a Federal charter is being submitted separately for appropriate consideration.

The Secretary of Agriculture, who, pursuant to Executive Order 8219, issued August 7, 1939 (4 F. R. 3565), represents the United States as the sole owner of the capital stock of the Commodity Credit Corporation, establishes the bylaws of the Corporation, and elects the members of the board of directors and other officials of the Corporation. The Corporation is managed by an active board of directors, of which the Secretary of Agriculture is chairman. The activities of the Corporation are carried out through the facilities and personnel of the Production and Marketing Administration of the Department of Agriculture. The members of the board of directors, other than the Secretary of Agriculture, are the Under Secretary of Agriculture and the Assistant Secretary of Agriculture and seven policy-making officials of the Production and Marketing Administration. The officers of the Corporation are also officials occupying responsible positions in that Administration.

Financial Organization

The Commodity Credit Corporation was originally capitalized for \$3,000,000 subscribed by the Secretary of Agriculture and the Governor of the Farm Credit Administration. The funds for such subscription were derived from the appropriation authorized by section 220 of the National Industrial Recovery Act (48 Stat. 210) and made by the Fourth Deficiency Act, fiscal year 1933 (48 Stat. 274). In accordance with the act of April 10, 1936 (15 U. S. C. 713a), the Corporation's capitalization was increased to \$100,000,000, the additional \$97,000,000 of the Corporation's stock being acquired by the Reconstruction Finance Corporation. By section 3 of the act of March 8, 1938 (15 U. S. C. 713a-3), the Secretary of Agriculture, the Governor of the Farm Credit Administration, and the Reconstruction Finance Corporation were directed to transfer the ownership of the stock of the Corporation to the United States. That section also provided that all rights of the United States arising out of the ownership of such stock should be exercised by the President of the United States or by such officers or agencies as he might designate. Executive Order 8219, issued August 7, 1939 (4 F. R. 3565), transferred to the Secretary of Agriculture the authority to exercise on behalf of the United States all rights arising out of the ownership of the stock of the Commodity Credit Corporation. The act of March 8, 1938, as amended (15 U. S. C. 713a-1), provides for an annual appraisal of the Corporation's assets by the Secretary of the Treasury. The Secretary of the Treasury is directed to restore the amount of any capital impairment disclosed by the appraisal from appropriations made for that purpose (15 U. S. C. 713a-1) and the Corporation is directed to pay into the Treasury the amount of any net worth in excess of \$100,000,000 (15 U. S. C. 713a-2).

The act of March 8, 1938, authorized the Corporation, with the approval of the Secretary of the Treasury, to issue and have outstanding bonds, notes, debentures, and similar obligations in an aggregate amount not to exceed \$500,000,000, fully guaranteed as to principal and interest by the United States Government. The borrowing power of the Corporation was increased by successive amendments to the act of March 8, 1938 (15 U. S. C. 713a-4), and now, by virtue of the act of April 12, 1945, the Corporation is authorized to borrow \$4,750,000,000 on the credit of the United States.

On June 30, 1946, notes payable outstanding amounted to \$1,582,342,884. It is not contemplated that operations during the fiscal year 1948 will require any increase in the Corporation's borrowing power.

Analysis of Budget by Major Activities

The budget of the Corporation is based on six distinct types of programs carried out under corporate and other specific authorities. These types of programs are:

1. Price-support program
2. Supply program
3. Foreign-purchase program
4. Commodity-export program
5. Subsidy program
6. Loan to the Secretary of Agriculture for agricultural conservation purposes

Basically these types of programs are not entirely independent. Purchases under the supply program may reduce or completely absorb the visible surplus of an individual agricultural commodity and in some instances make it unnecessary to carry out a price-support operation in connection with that commodity under the price-support program. The supply and commodity-export programs also provide outlets for commodities acquired under the price-support program which, if they were not so disposed of, would have to be held by the Corporation until other suitable outlets could be developed. Similarly, facilities, such as elevating equipment, storage, and other equipment, acquired in connection with one program, may be utilized in connection with another program.

During the war period prior to VJ-day and in the subsequent transition period a large part of the operations of the Corporation consisted of the procurement of supplies of agricultural commodities and products thereof, foods, and related facilities needed for the armed services, lend-lease, United Nations Relief and Rehabilitation Administration and other relief organizations, foreign governments, and the support of our economy during the war and the transitional period. Wherever possible, price-support operations were directed toward bringing forth the production needed to fulfill such needs. The level of support prices was established not only with a view to meeting minimum legal requirements but also to bringing about desirable shifts in production and obtaining the needed volume of production. It was also necessary to encourage the production of certain commodities not normally produced in the United States in great volume and to undertake purchases of agricultural commodities in foreign countries. During this period price-support operations were carried out largely by purchases rather than by loans in order that commodities to be acquired under these programs might be readily available to fill wartime and transitional period needs.

STATEMENT OF OBLIGATIONS UNDER SUPPLEMENTAL FUNDS

Item	Obligations, 1946	Estimated obligations, 1947	Estimated obligations, 1948
Quartermaster Service, Army (Transfer to Agriculture, Production and Marketing Administration): Transfer from War Department for inspection of hay and supervision of Army hay inspectors	\$5,105:	\$7,009:	\$7,134
Special Research Fund, Department of Agriculture (Allotment to Production and Marketing Administration): Special re- searches in marketing farm products	16,532:	19,500:	19,500
Community Facilities, Defense Public Works, Office of Admin- istrator, Federal Works Agency (Transfer to Agriculture): For the maintenance and operation of recreational and child- care services for migrant agri- cultural workers in Florida, North Carolina, Virginia and Tennessee	17,694:	- -:	- -
Foreign War Relief (Allotment to Agriculture, Office of the Secretary)(Production and Mar- keting Administration): Fur- chase and distribution of agri- cultural commodities for refugee relief	258,619:	- -:	- -

Note:--Executive Order 9630 of
September 27, 1945, which
abolished the Foreign Economic
Administration, transferred to
the Department of Agriculture
"the functions of the Office of
Foreign Food Programs and all
other functions of the adminis-
tration with respect to food
(as defined in paragraph 10 of
Executive Order No. 9280 of
December 5, 1942), food machin-
ery, and other food facilities":

Item	Obligations, 1946	Estimated obligations, 1947	Estimated obligations, 1948
The following three transfers show the amounts transferred pursuant to this order:			
<u>Salaries and Expenses, Foreign</u>			
<u>Economic Administration (Trans-</u>			
<u>fer to Agriculture, Foreign</u>			
<u>Food Programs)</u>	55,218:	- -:	- -
<u>Penalty Mail Costs, Foreign</u>			
<u>Economic Administration (Trans-</u>			
<u>fer to Agriculture, Foreign</u>			
<u>Food Programs)</u>	500:	- -:	- -
<u>Administrative Expenses, Recon-</u>			
<u>struction Finance Corporation</u>			
<u>(U.S.C.C.) (Transfer to Agri-</u>			
<u>culture, Foreign Food Programs)</u>	124,876:	- -:	- -
<u>Total, Foreign Food Programs:</u>	180,594:	- -:	- -
<u>Working Funds, Agriculture (Pro-</u>			
<u>duction and Marketing Adminis-</u>			
<u>tration) Advances from:</u>			
<u>Navy Department: Inspection</u>			
<u>and grading of farm products</u>	370,358:	173,445:	- -
<u>War Department: Inspection of</u>			
<u>processed fruits and vegeta-</u>			
<u>bles</u>	638,966:	256,988:	- -
<u>Inspection of miscellaneous</u>			
<u>grains and cereal products ..</u>	71,698:	74,785:	- -
<u>Preparation of photographic</u>			
<u>reproductions for central</u>			
<u>film library</u>	20,933:	757:	- -
<u>Indexing and preparation of</u>			
<u>aerial photographs for mosaics</u>			
<u>and charting purposes</u>	153,386:	87,627:	- -
<u>Total, War Department</u>	884,983:	420,157:	- -
<u>Office of Price Administration:</u>			
<u>Grading and certification of</u>			
<u>farm products</u>	5,672:	- -:	- -
<u>Bureau of Census: Work in con-</u>			
<u>nection with planning and</u>			
<u>developing a method of procur-</u>			
<u>ing sample agricultural data</u>			
<u>in connection with program of</u>			
<u>reconversion statistics</u>	23,477:	196:	- -

(Continued on next page)

Item	Obligations, 1946	Estimated obligations, 1947	Estimated obligations, 1948
Working Funds, Agriculture (Pro- duction and Marketing Adminis- tration) Advances from: Cont.			
Bureau of Census: Cont.			
Preparation of copies of aerial photographs and other services in connection with the sample census of popula- tion	16,696:	5,804:	- -
Total, Bureau of Census ...	40,173:	6,000:	- -
TOTAL, WORKING FUNDS	1,301,186:	599,602:	- -
TRUST FUNDS:			
Moisture Content and Grade Deter- minations for Commodity Credit Corporation: Expenses of in- specting, sampling, grading, sealing, testing, and other work incident to storing agri- cultural commodities and mak- ing loans thereon under the commodity loan program	7,525:	8,000:	8,000
Indemnity Fund, County Associa- tions: Reimbursement to United States and other agencies or persons for losses by negli- gence or willful malfeasance by an employee of the County Agri- cultural Conservation Associa- tions	2,305:	2,000:	2,000
Undistributed Cotton Price Ad- justment Payments: Cotton price adjustment payments which could not be paid to persons entitled thereto by the trustees who received the payments under such programs	398:	300:	300
Expenses and Refunds, Inspection and Grading of Farm Products, (Production and Marketing Admin- istration): Inspection and grading of farm products under cooperative agreements	6,711,701:	6,102,964:	4,823,535

(Continued on next page)

Item	Obligations, 1946	Estimated obligations, 1947	Estimated obligations, 1948
TRUST FUNDS: Cont.			
Grading of Agricultural Commod- ities for Commodity Credit Cor- poration, Production and Market- ing Administration: Classific- ation of cotton	376,927:	374,400:	376,660
Wool grading	391,575:	473,696:	479,340
Total,.....	768,502:	848,096:	856,000
Miscellaneous Contributed Funds, Department of Agriculture (Pro- duction and Marketing Adminis- tration): Trust fund contribut- ed by cooperators for the dis- semination of market news in the New England area, and for aerial photography in certain states where payments are made on basis of acreage	6,865:	8,700:	15,000
Return of Excess Deposits for Reproduction of Photographs, Mosaics and Maps (Production and Marketing Administration): Trust fund for refund of moneys received for photographic re- production in excess of cost of making such reproductions	2,381:	2,000:	2,000
Unclaimed Moneys of Individuals Whose Whereabouts are Known, Agriculture, (Production and Marketing Administration): Trust fund to provide refunds, if claimed, of overpayments of less than one dollar	6:	100:	100
Total, Trust Funds	7,499,683:	6,972,160:	5,706,935
Penalty Mail Costs, Department of Agriculture (Allotment to Pro- duction and Marketing Adminis- tration): For cost of penalty mail pur- suant to Section 2, Public Law: 364, 78th Congress	1,456,038:	1,511,480:	1,746,491

(Continued on next page

Item	Obligations, 1946	Estimated obligations, 1947	Estimated obligations, 1948
<u>Expenses, Disposal Agencies, War</u>			
<u>Assets Administration (Allotment</u>			
<u>to Agriculture, Production and</u>			
<u>Marketing Administration):</u>			
For expenses of disposal of			
surplus agricultural commodi-			
ties and food	406,113	321,212	92,000
<u>Defense Aid - Lend Lease (Allot-</u>			
<u>ment to Agriculture, Production</u>			
<u>and Marketing Administration):</u>			
For administrative expenses in			
connection with the procure-			
ment of agricultural commodi-			
ties for the Lend Lease pro-			
gram and for liquidation of			
lend-lease activities	a/ 5,322,132	a/ 1,633,300	- -
<u>United Nations Relief and Rehabil-</u>			
<u>itation Administration (Allotment</u>			
<u>to Agriculture, Production and</u>			
<u>Marketing Administration):</u>			
Administrative expenses in con-			
nection with the procurement			
of agricultural commodities			
for the UNNRA program	a/ 2,952,200	a/ 4,765,639	- -
TOTAL, OBLIGATIONS UNDER			
SUPPLEMENTAL FUNDS	19,415,896	15,829,902	7,572,060
a/ Obligations for administrative expenses only. Excludes program funds.			

(a) FARMERS' HOME ADMINISTRATION

Tenant purchase loans and farm tenant mortgage insurance - Title I

Objective: (a) Pursuant to Title I of the Bankhead-Jones Farm Tenant Act, as amended, by means of direct loans and insured mortgage loans, to promote more secure occupancy of farms and farm homes by farm tenants, farm laborers and sharecroppers; to correct the economic instability resulting from some present forms of farm tenancy; to preserve the family-type farm in America; to correct maladjustments of population to the land which result in wasted manpower and impoverishment of the land and people. (b) Pursuant to Title I, Section 1 (b)(2) of the Bankhead-Jones Farm Tenant Act, as amended, to extend benefits of this Title to veterans of any war between the United States and any other nation.

The Problem and Its Significance: The evils of certain forms of farm tenancy causing impoverishment of land and people are well known. According to preliminary census data for 1945, 32.3 percent of all farms are operated by tenants. It is becoming progressively more difficult for farmers of average means and circumstances to achieve farm ownership and increasingly difficult for operators of inadequate and underdeveloped farms to retain ownership. There is an increasing need, therefore, for direct action programs to assist tenant farmers in the purchase, enlargement, or development of family-type farms in the United States.

It is becoming increasingly difficult to purchase farms on a sound basis; however, the Farm Security Administration has found that there are still some farms which can be purchased at prices reasonably consistent with earning capacity values. It will be the policy of the Farmers Home Administration to refrain from making loans when prices asked for farms are out of line with their long-time earning capacity values. This basic policy will also govern in the administration of the farm tenant mortgage insurance program and no farm mortgage will be insured where the purchase price of the farm is in excess of the productive value of the farm.

Progress and Current Program

Loan Approvals and Applications: From the passage of the Bankhead-Jones Farm Tenant Act in 1937 through June 30, 1946, 41,482 loans totaling \$250,109,026 have been approved to enable qualified farmers to purchase family-type farms. Each year the number of applications for the loans has greatly exceeded the number which could be approved with the limits of available funds. During the fiscal year 1946, 85,351 applications were on hand but only 3,357 loans were approved. Of the applications received 27,303 were from veterans of World War II. (See Tables II, III, and IV.) Of the \$50,000,000 available \$28,070,067 was obligated; of this amount \$16,302,794 went for veterans loans.

In 16 states the full amount allocated for non-veterans was obligated. In these states more loans might have been made if larger amounts for the purpose had been available. Three factors, in combination, prevented the use of the full amount authorized: (1) the allocation formula of the Bankhead-Jones Farm Tenant Act, which did not permit the transfer between states for non-veteran loans on the basis of demand or availability of farms; (2) the restriction in the 1946 Agriculture Appropriation Act limiting the size of loans for non-veterans to 15 percent above the average value of farms 30 acres or more in size in a county, parish, or locality, as determined by the 1940 census; and (3) the high prices of farm real estate in many areas limiting loans for veterans and non-veterans.

Size of Loans and Type of Farms: The average size of loans has been \$6,040 for 41,482 farms purchased during the 9 years the Tenant Purchase Program has been in existence. All farms purchased were carefully appraised on the basis of earning capacity, using average long-time yields and prices for computing agricultural values. In addition to this conservative technical appraisal, the Act requires that a local County Committee of three local men must certify to the applicant's eligibility and to the agricultural value of each farm before a loan to buy it can be approved.

During 1946 the average purchase price paid for the farm unit itself was \$6,024 or \$37 per acre. The average loan included \$118 for land improvements, \$386 for buildings other than dwellings and \$806 for new dwellings or repairs to existing homes. (See Table V.)

These farms are economic farm management units of a size that can be operated successfully by an average farm family without the hiring of outside labor except during brief periods such as planting and harvesting time. The average size of the farm purchased through 1946 has been 138 acres as compared with the average acreage of 195 for all farms as reflected in the preliminary 1945 census data (see Table VI). Each farm has an income capacity sufficient to maintain an acceptable standard of living, pay annual operating expenses, pay for and maintain the foundation livestock, workstock, and farm and home equipment, and repay the loan with interest within a period of 40 years.

Collections: The Bankhead-Jones Farm Tenant Act contained the first legislative recognition by Congress that farming is a business characterized by low and high income fluctuation and that debt-paying ability rises and falls correspondingly. Section 42 stated that the Secretary of Agriculture might provide for a system of variable payments "under which a surplus above the required payment will be collected in periods of above-normal production or prices and employed to reduce payments below the required payment in periods of subnormal production or prices."

Since July 1, 1941, all new payment contracts have included this variable payment provision, these borrowers having agreed to pay more on their farm purchase debts in high-income years in order to pay less in low-income years. As of March 31, 1946, 28,239 active borrowers were using the variable payment plan, and 5,488 borrowers were still under contract to pay installments of fixed amounts annually.

Tenant Purchase borrowers' success in further improving their financial position during a period of favorable agricultural income is seen in collection reports on amounts due for the calendar year 1945. If the variable payment borrowers with payments due had paid only "schedule", which is the amount required to amortize their debts in 40 equal annual installments, they would have paid \$7,418,129 during 1945. They actually paid \$18,131,313, which is \$10,713,184 more than schedule. This surpasses the record of any previous year.

From the beginning of the program, the active variable payment borrowers had made cumulative payments of \$42,667,556 as against \$24,299,786 which would have been due under a fixed payment contract. This places these families \$18,367,770, or 76 percent, ahead of schedule. (See Table VII.)

Sixty-eight percent, as compared to 66 percent the year before, of the active variable payment borrowers were ahead of schedule as of March 31, 1946, by an average of \$1,021. This amounts to almost four average annual installments ahead of schedule. Sixteen percent were exactly on schedule. Only 16 percent, as compared to 18 percent the year before, were behind schedule by an average amount of \$259 or about the equivalent of one annual installment. In addition, over 2,000 variable payment borrowers repaid their loans in full in 1945 bringing the total number fully paid to over 3,800.

For all tenant purchase borrowers, including those paying fixed annual amounts, 33,727 borrowers who were active at the close of 1945 (excluding borrowers who have paid in full) had made cumulative payments of \$49,539,733 as compared with \$31,232,719 required under the fixed plan to date. This places them \$18,307,014, or 59 percent, ahead of schedule. In addition the 33,727 families paid \$31,340,189 in the form of extra payments (including refunds on loans, proceeds from the sale of mortgaged property, and advance payments by borrowers under contract to pay fixed amounts annually).

In comparing the amounts of principal and interest repaid to the amounts for which all borrowers have been billed, it is found that 98.6 percent of the amounts which have fallen due have been repaid. On March 31, 1946, there were 5,110 borrowers delinquent in an average amount of \$192. This represents a reduction of \$25 in average amount delinquent as compared with the previous year. (See Tables VIII and IX.)

The program established under Title I of the Bankhead-Jones Farm Tenant Act can be said to have passed the experimental stage. It has been demonstrated to be a practical and successful means of achieving the purposes of the Act. An efficient organization has been developed which can be utilized under the expanded program contemplated by the Farmers Home Administration Act. Farm tenants, farm laborers, sharecroppers, and others engaged in farming have shown that they are eager for the loans and that they are able to become successful owner-operators and retire their debts. The tenant purchase loan is especially well adapted to the needs of veterans. It appears that there is ample justification for utilizing the farm enlargement and farm development loans and expanding the program with insured mortgages.

Production and subsistence loans - Title II

Objective: To provide farm and home operating credit at reasonable rates and on reasonable terms supplemented by supervision or practical guidance where and as required, to an additional number of eligible farmers or stockmen, including veterans and war-time industrial workers, who are unable to obtain such assistance from any other source, to give them an opportunity for full and productive employment on the land, thus improving their economic status and living conditions; and to continue such assistance to present eligible borrowers who are making reasonable progress toward economic security but who need additional credit and advice in farm and home management operations to attain that objective.

The Problem and Its Significance: The most recent, and perhaps the most reliable, indication of the total potential need among the farmers of the nation for the type of production credit provided by the Farmers Home Administration is shown clearly by a study of the following table, based on information recently released by the Bureau of the Census:

Number and Percent of Farms by Total Value of Farm Products
for 1944 and 1939 1/

Total value of farm products per farm	1944		1939	
	Number of farms	Percent of total	Number of farms	Percent of total
Under \$250	548,000	9.4	1,233,000	20.4
\$250 to 399	419,000	7.2	822,000	13.5
\$400 to 599	495,000	8.4	871,000	14.4
\$600 to 999	769,000	13.1	1,054,000	17.4
\$1,000 to \$1,499	724,000	12.3	709,000	11.7
\$1,500 to 2,499	928,000	15.8	680,000	11.2
\$2,500 to 3,999	750,000	13.0	376,000	6.2
\$4,000 to 5,999	520,000	8.9	136,000	2.7
\$6,000 to 9,999	404,000	6.9	89,000	1.5
\$10,000 and over	292,000	5.0	58,000	1.0
Farms not classified by total value of farm products	17,000	<u>2/</u>	39,000	<u>2/</u>
U.S. Total	5,877,000	100.0	6,097,000	100.0

1/ From release of July 30, 1946, by Bureau of the Census: Table on "Farms, Farm Characteristics, and value of Farm Products for the United States, the North, the South, and the West: Preliminary Estimates for the Census of 1945 with comparisons for 1940". 1944 data is based on a sample of 223 counties and 1939 data on all counties.

2/ Farms not classified by total value of farm products are distributed proportionately between classified farms.

The above data shows considerable improvement in the financial position of many farmers during the war years - a fact which has been generally recognized, but it also shows that a large segment of our farm population failed to benefit materially from the favorable conditions which prevailed in agriculture during this period. The above table shows, for example, that 2,232,000 farms, or 38.1 percent of the total number of farms in the nation, had a gross farm production valued at less than \$1,000 in 1944. Despite the upward trend in gross farm income since 1939, approximately two out of every five farms are still producing less than \$1,000 worth of farm products, based on 1944 prices. When 1944 prices are adjusted to the 1939 price index, 3,466,000 farms, or, 59.1 percent of the farms reported in the 1945 agricultural census would be classified in the group producing less than \$1,000 worth of farm products.

Many farmers have remained in the low-income group because they lacked the land, working capital, and the skill and ability to plan and carry out sound farming operations. They were not in position to expand or adjust their operations during the war years to take advantage of the favorable price and demand situation. A large percentage of our farmers, particularly those with a gross income of less than \$2,500, are not now in position to make the necessary adjustments in their operating plans and methods to assure a reasonable opportunity for success in the years ahead. From a study of the above comparative data, it is evident that the vast majority of the farmers in the low-income groups will continue to farm on an uneconomic and inadequate basis until they are provided sound credit and the practical guidance needed to improve their circumstances.

Based on a study of the preliminary releases of 1945 agricultural census data and other information, it is estimated that at least 1,715,000 farmers throughout the nation may be considered eligible for and potentially in need of production and subsistence loans from the Farmers Home Administration. The following table shows the distribution of these farmers, grouped according to the value of farm products grown in 1944:

Total value of farm products per farm	Number of farms	Farmers who may be considered eligible for FHA assistance	
		Number	Percent of total farms in group
\$1,500 - 2,499	928,000	696,000	75
\$600 - 1,499	1,493,000	895,000	60
\$400 - 599	496,000	124,000	25
Total (range \$400 - \$2,499)	2,917,000	1,715,000	59

In arriving at this estimate, those farms which reported a total production valued at \$2,500 or more in 1944 were not considered. While we recognize that the operators of many of these farms would be eligible for production and subsistence loans, they were omitted from the above estimate for the reason that these farmers as a group possess sufficient collateral to obtain their operating credit needs through other sources at reasonable rates. A small number of them, mostly in the New England, Middle West and western states, however, cannot make such arrangements, and will require and receive assistance from the Farmers Home Administration. Likewise, that group of farms which reported a total production valued at less than \$400 in 1944 were eliminated from this estimate of the total potential need for production and subsistence loans, although it was realized that many farmers in this group would qualify for and

urgently need assistance from the Farmers Home Administration. While a relatively large proportion of the farms reported in this group are subsistence units or are operated as part-time farms, many are operated by full-time farmers who are in need of and eligible for assistance under this program. This estimate of the total potential need, therefore, is conservative.

Demand for Financial Assistance Increasing: The immediate need and demand for financial assistance among eligible farmers, including veterans and returning war-time industrial workers, is great and is increasing steadily. The best evidence of this increasing need is the actual experience of the Farm Security Administration and of the Emergency Crop and Feed Loan Division in recent years.

In the fiscal year 1946, 90,897 applications for original rehabilitation loans were received in FSA offices, against 57,313 such applications for the fiscal year 1945. There was a steady increase in the rate of applications received each month during the last fiscal year, but the most rapid increase occurred in the months of January, February and March when a total of 36,511 applications were received against 19,213 applications for the same period in the fiscal year 1945. Of the 36,511 applications received in January, February and March, 14,852 were filed by veterans of World War II who had been unable to obtain satisfactory credit from other sources. Of the total of 90,897 applications received during 1946, 32,104 were from veterans. (See Table X.)

In recognition of the increased demand in 1946, the Congress included in the Second Urgent Deficiency Appropriation Act an authorization to increase the amount available for rehabilitation loans during the remainder of the fiscal year 1946 by \$15,000,000, which made a total of \$82,500,000 available from RFC for rehabilitation loans. In addition, \$16,684,000 of State Rural Rehabilitation Corporation funds were utilized for rehabilitation loans in 1946, or a grand total of over \$99,000,000.

It is already apparent that the demand for adjustment loans in 1947 will exceed the heavy demand which was experienced by the Farm Security Administration in 1946. In the first 5 months of this fiscal year, 45,618 applications for original rural rehabilitation loans had been received against 31,748 such applications in the same period of the 1946 fiscal year. Of the total applications received in July through November, 20,198 or approximately 43 percent, were from veterans of World War II. In the first 5 months of the 1947 fiscal year, 11,660 original rural rehabilitation loans were made from RFC funds, as compared with only 7,749 such loans made during this period last year. Veterans received 7,353 of the total number of original loans made in the first 5 months of this year against only 1,677 original loans made to veterans in this period last year. It is reasonable to expect a minimum of 100,000 applications in the fiscal year 1947 for the type of assistance that was provided through the rural rehabilitation program.

For the fiscal year 1947, an authorization of \$70,000,000 for rehabilitation loans was approved by the Congress. This amount will provide the supplemental assistance necessary to permit present FSA borrowers to continue their progress toward economic security and will also provide initial loans and supervisory assistance to approximately 15,400 additional farm families who need both credit and guidance to enable them to make the necessary adjustments in their farm and home operations - or an average of five families per county.

Because of the increasing demand and limited funds available for loans this year, it was necessary during October to stop making initial rural rehabilitation loans to all applicants except veterans in five FSA regions comprising 26 states. Very small reserves were retained for initial loans to veterans; thus, in these regions, it will be necessary at an early date to stop making initial loans.

Similar action will be necessary within a few weeks in several other regions. At the rate applications are being received and loans are being approved, it is apparent that all funds available for initial adjustment loans will be completely exhausted several months earlier than in any previous year - and even before the normal peak lending season is reached.

The anticipated collections on outstanding emergency crop and feed loans plus the appropriation of \$5,000,000 will provide an estimated total of \$24,000,000 for annual production and subsistence loans in 1947.

The amount that could be loaned to an individual farmer in any year under the emergency crop and feed loan program was limited by law to \$400. Emergency crop and feed loans could not be made for the purchase of chattels, but have been restricted generally to such purposes as the purchase of seed, feed and fertilizer. Production and subsistence loans of not to exceed \$3,500 in any fiscal year may be made by the Farmers Home Administration to an eligible farmer either to provide annual operating credit or to provide needed adjustment credit. Annual operating loans may include reasonable amounts for the purchase of essential livestock, equipment or other chattels but will be repayable within one year except for those made for the purchase or production of feed for livestock feeding which are repayable within 15 months.

Many farmers, therefore, who have been unable to secure needed operating credit from other sources on reasonable terms and whose needs could not be met through the emergency crop and feed loan program will now be eligible for such assistance through the Farmers Home Administration. Consequently, the demand in 1947 for annual operating loans through the Farmers Home Administration in number and dollar volume will exceed the demand last year for emergency crop and feed loans.

Among the many reasons for this steady increasing need and strong demand for the type of production credit and supervisory assistance, including both annual and adjustment loans, which will be available through the Farmers Home Administration, the following are of primary importance:

1. Satisfactory credit is needed by an increasing number of farmers, particularly family-type farm operators, to effect adjustments which will increase production and decrease production costs. These fundamental adjustments involve the use of equipment and methods developed through scientific research, and improved managerial ability. Short-term or annual credit will not permit the making of many of these needed adjustments. In the past, rehabilitation loans have constituted the only source of credit which would permit many farmers to make these necessary adjustments. This type of assistance will now be available to many of these farmers only through the Farmers Home Administration.
2. Many small farmers who have sufficient land and some equipment will require loans, which they cannot obtain elsewhere, for current farm and home operating expenses. In addition, there are other small farmers with more limited resources at the time they apply for assistance who will require loans, which they cannot obtain elsewhere, for needed equipment and other operating expenses.
3. World War II veterans in increasing numbers are unable to obtain satisfactory credit from other sources for financing their farming operations. About 15 percent of the men who entered the armed services came from farms, and a large number of them will return to agriculture. Many of these veterans were either low-income farmers when they entered the service, or from the families of low-income farmers. They have little or no capital or equipment of their own with which to begin farming operations, and are finding it difficult to obtain satisfactory credit from other sources for a sound start in farming.
4. Mechanization of agriculture is increasing rapidly and many family-type farm operators are unable to secure on short-term or seasonal credit the equipment necessary to enable them to increase production to a profitable volume.
5. Increasing numbers of farmers with limited resources will require financial assistance and practical guidance to enable them to adopt successfully improved practices discovered through scientific research which will increase their production and ultimate opportunities for security on the land.

6. Young families are rapidly replacing over-aged farm operators, and many such families have been unable to finance satisfactorily the purchase of livestock, equipment, feed, seed and fertilizer and the first year's living expenses through any source other than production and subsistence loans. A large number of deserving young farm families have achieved success through the assistance provided under this program. Many additional families who are eligible for and in great need of this type of assistance are now applying for, and will expect to receive, such assistance from the Farmers Home Administration.

Borrowers' Progress: The primary purpose of the program is to help low-income farm families achieve greater economic stability and security. To accomplish this purpose, borrowers have been provided sound credit supplemented by such supervision or practical guidance as they needed to plan and carry out balanced and efficient farm and home operations. Credit, alone, would not meet the needs of all the families who have applied for and received assistance. Their failures were attributable as much to a lack of knowledge of good farm and home management practices and principles as to a lack of sound financing, therefore, credit and supervision have been combined in an effort to help them overcome the problems which prevented their success in farming.

It would not be possible to measure the total progress made by borrowers as a result of the assistance provided them. Certain matters, such as sound tenure, proper balance of enterprises, family health, and improved management have been considered fundamental to the success of any farm family. County Supervisors with full recognition of these fundamentals have given borrower families technical and advisory assistance in planning their farm and home operations and in carrying out their plans. As a result, these families have achieved remarkable improvement in their standards of living and progress toward economic security and independence.

Since the beginning of the program in 1935 to June 30, 1946, 434,357 borrowers receiving loans from appropriated or RFC funds and 97,302 state corporation borrowers had repaid in full their indebtedness to the Government, and when they left the program were in a position to continue their farming operations without further rehabilitation assistance.

Additional evidence of borrowers' progress is shown by these facts which were derived from a study of the situation of a representative sample of borrower families at the end of the 1945 calendar year:

Resources and Liabilities of Average RR Borrower Before Acceptance,
Beginning of 1945 and End of 1945

Item	: Before : : acceptance :	Beginning : of 1945 :	End of 1945
Acres	111		176
Working capital	\$722	\$1,893	\$2,356
Total owned	1,680	3,477	4,078
Total owed	669	1,325	1,333
Net worth	1,011	2,152	2,745

See Tables XI, XII and XIII for information by states

Collections

Rural Rehabilitation Loans: Total collections on rural rehabilitation loans in 1946 amounted to \$109,403,973. (See Table XIV and Figure I.) Since the inception of the rehabilitation program in 1935 through June 30, 1946, a total of \$1,005,392,816 had been obligated for rehabilitation loans. As of June 30, 1946 principal repayments amounted to \$688,690,714, and interest payments amounted to \$95,347,194. In other words, 68.5 percent of the principal advanced in rehabilitation loans since 1935 had been repaid. Cumulative principal and interest payments amounted to 78 percent of cumulative advances. The amount of principal repaid, including prepayments, was 30.3 percent of the amount which had become due on June 30, 1946. (See Tables XV, XVI and XVII and Figures II and III.)

Emergency Crop and Feed Loans: Total principal collections on emergency crop and feed loans during the fiscal year 1946 amounted to \$23,098,569 segregated by loan years as follows:

1918 - 1936 crop and feed loans	\$3,784,523
1934 - 1935 drought loans	2,668,602
1937 - 1946 crop and feed loans	16,633,589
1942 Orchard rehabilitation loans	6,855
Total collections - Principal	\$23,098,569

In addition, the total interest collections amounted to \$4,498,807 segregated by loan years as follows:

1918 - 1936 crop and feed loans	\$2,356,258
1934 - 1935 drought loans	1,387,384
1937 - 1946 crop and feed loans	755,165
Total collections - Interest	\$4,498,807

Since the inception of the program in 1918 through June 30, 1946 there have been 4,456,335 loans made in the amount of \$575,226,190. As of June 30, 1946, principal repayments amounted to \$432,607,357, or 75.2 percent of the principal amount has been repaid, and \$5,385,522, or .009 percent of the principal amount has been adjusted under Public Law 518 leaving 1,094,327 loans outstanding for a principal amount of \$137,233,311 on June 30, 1946. (See Table XVIII.)

Grants: Grant funds were used in 1946 only to relieve human suffering, to aid medical care and health groups and to further the environmental sanitation work in Puerto Rico. Grants made in emergency cases to relieve human suffering totaled \$560. Grants for medical care programs totaled \$223,895. Grants for furthering the environmental sanitation work in Puerto Rico and the Virgin Islands, where sanitary conditions and the lack of pure water have seriously retarded the rehabilitation of needy families, totaled \$25,000 (See Table XIX.) The Farmers Home Administration Act does not authorize grants, and they were, accordingly, discontinued as of October 31, 1946. Grants made during the period July 1 to October 31, 1946, total only \$42,324.

Project Liquidation

152 Resettlement Projects: As of June 30, 1946, the number of unsold resettlement project farm units has been reduced to 630, involving approximately 39,444 acres, as compared to 1,434 units consisting of approximately 80,000 acres unsold as of June 30, 1945. Eighty-five of the 152 projects had been completely liquidated, including the disposition of all community facilities, surplus acreage, etc., leaving 67 projects on which some liquidation activity is yet to be performed. (See Table XI.)

The total investment of the Government in the 152 resettlement projects as of June 30, 1946 was \$70,917,404 including the cost of community facilities and other costs not applicable to the farm units. Of the \$53,067,803 representing the total cost of farm units which have been sold, \$31,700,498 has been recovered, resulting in a net loss of \$21,367,305. Project property costing \$3,761,882 has been transferred or conveyed to other agencies. (See Tables XXI and XXII.)

Of the project property other than farm units and consisting of community facilities, surplus land and surplus residential property which has been sold \$3,511,424 has been recovered, resulting in a net loss to the Government of \$2,282,421.

Defense Relocation Corporations: Land purchases by the defense relocation corporations were financed through loans from the Government. Cumulative loan advances amounted to \$9,921,758. As of June 30, 1946, principal in the amount of \$6,036,425 had fallen due and had been repaid. In addition, interest payments of \$812,529 had been made. Of the total collections amounting to \$6,848,754, \$4,470,790 was received during the fiscal year 1946. Of the total acreage, 256,445 - the cost of which, including development, amounted to \$10,100,784 - 204,827 acres were sold as of June 30, 1946 for \$8,719,423. This compares to acres sold on June 30, 1945 of 83,437.

Land Purchasing and Land Leasing Associations: Land purchases by the land purchasing and land leasing associations were financed through loans from the Government, and information is not available as to the cost of such land. However, as of June 30, 1946, the Government investment as represented by the loans is as follows: Advances, \$14,284,924; Principal due, \$10,554,119; Principal Repayments, \$8,388,445; Interest Payments, \$1,427,009. Of the total collections of \$9,815,454, \$2,300,026 was received during the fiscal year 1946.

Miscellaneous Projects: On 11 of the 14 miscellaneous projects for which land was acquired by direct purchase, the Government investment amounted to \$1,459,245. Of the 131,891 acres involved in these 11 projects, 28,782 acres had been sold as of June 30, 1946 as compared to 24,416 on June 30, 1945.

The other three projects - Cherry Lake Farms, Florida, Pine Mountain Valley, Georgia and Dyess Farms, Arkansas - were developed with funds granted to the states by the Federal Emergency Relief Administration and were turned over to the Farm Security Administration for management in November 1939. The property in each instance is in the name of a corporation established while under the jurisdiction of the Federal Emergency Relief Administration, and the total cost of each project is not available to the Farm Security Administration. However, loans in the amount of \$933,345 were made by F.S.A. to associations on two of the projects. As of June 30, 1946, \$395,682 had fallen due and had been repaid, plus \$75,294 in interest. Of the total 39,705 acres originally acquired 30,389 acres have been sold as of June 30, 1946 as compared to 20,102 sold on June 30, 1945.

Farm Labor Supply Centers: As of June 30, 1946, 2,575 acres of land formerly used in connection with the Farm Labor Supply Program had been returned to Farm Security Administration. Of this total, 1,719 acres had been sold leaving 856 acres to be disposed of.

Public Law 563, 79th Congress, approved July 30, 1946, directs that for a period of 3 years from the date of the Act, veterans of World War II and present project occupants to whom previous commitments to purchase have been made or who have existing contracts to purchase, be given priority to acquire project property which is suitable for disposition as economic farm units. Provision is made in the Act for appropriations for the purpose of improving project lands determined to be suitable for development as economic farm units. From a field survey it has been determined that all of the property suitable for sale as economic farm units can be improved through loans to individual purchasers.

(b) Water Facilities, Arid and Semiarid Areas

Objective: To increase and stabilize the productive capacity of farms and ranches, in the arid and semiarid areas of the West, through the effective development and utilization of the limited water supplies available for agricultural use, thereby increasing production and improving the welfare and security of farm families.

The Problem and its Significance: In many western areas, the lack of adequate water for irrigation, livestock, and domestic use is a more serious obstacle to agricultural progress and stability than the lack of good soil. Water resources remain undeveloped, are wasted, or are poorly used on much farm, grazing and forest lands. Underproduction on family-type farms, crop failures, decline in living standards, danger to public health, destruction of National resources, damage to public lands, drouths, and periodic floods, are some of the resulting problems created with which the farmer must cope.

Need for New Facilities: The need, most uniformly common to all the western area, is for water close to farm buildings suitable for drinking, for livestock, and for the garden; and for stock watering facilities on the range. The Bureau of Agricultural Economics has estimated that, of the two million farms in the 17 Western States, between 200,000 and 300,000 are without a direct water supply. In addition to these, there will be created in new irrigation areas, that will be developed in the next 10 years, a large number of new farms on which there will be a need for domestic and livestock water facilities. There is ample evidence that a large number of farms which do have access to water are not making full use of the water supplies available because facilities are in need of repair or in need of complete revamping. These conditions are not conducive to the effective use of land; adequate diets and good health; farm stability during periods of drouth; encouragement of families to stay on farms as a way of life; and the preservation of range lands through the proper distribution of grazing.

There are many localities scattered over the area in which water supplies are available for development to irrigate some of the land that is now in dry farms. It is estimated that, in addition to large blocks of land which can only be reclaimed by large irrigation projects, there are at least 10,000,000 acres which could be supplied with irrigation water in the next 15 years by means of small irrigation facilities, such as wells, pumps, small reservoirs, dams, and distribution systems. These small facilities would be installed by individual farmers or by small irrigation companies and would make it possible for many of the dry farms, considered to be submarginal under present circumstances, to become stable, economic farms capable of supporting a larger farm population. Approximately 33 per cent of the irrigation facilities built with Water Facilities loans have provided water for farms previously operated as dry farms.

Need for Repair or Improvement of Existing Facilities: There is also a growing demand for assistance by farmers and small irrigation companies in areas presently irrigated to make repairs or improvements to existing

irrigation facilities. According to the Sixteenth U. S. Census, Irrigation of Agricultural Lands (1940), there were, in the arid and semiarid areas of the Western United States, 430,022 irrigated farms on which 21,003,739 acres were irrigated. Forty-five per cent of this irrigated acreage received water from small scattered facilities, each serving from 1 to 24 farms. These small existing facilities were capable of supplying water for 12,273,843 acres. Of the latter acreage, 2,825,505 acres were not receiving any water. The reasons for this condition were not given, but some of the underlying causes are traceable to delayed repairs during the 1930's, excessive seepage and transportation losses in canals and ditches, lack of storage facilities, land not in condition to receive water, and numerous others.

Farm Security Administration statistical records show that of the 4,844 irrigation facilities completed or under construction under the Water Facilities program, 3,251 involved replacements, repairs, or improvements to existing storage dams, diversion dams, wells, pumps, and distribution systems.

It is recognized that a substantial number of installations will and should be financed from private capital. However, many farmers and farmers' water companies need long-term credit at reasonable rates of interest, not available from other credit sources, to enable them to improve and repair existing facilities or to construct new facilities. Present demand for such credit is very high. The five FSA regions in which the Water Facilities program operated in 1946 reported applications for loans on hand June 30, 1946, totaling \$1,966,555. They estimate that additional applications to be received in 1947 will amount to \$2,155,780.

Need for Technical Assistance to Borrowers: The failure of many existing facilities to give long continued efficient service is the direct result of poor planning and installation - not from choice, in many instances, but because the services of qualified technicians were either not available or the cost for such services was high as compared with the total cost of the facilities. In order to provide for the proper installation and use of the facilities provided through loans and to assure the repayment of loans, it is necessary that technical service and expert advice concerning water rights; water supply, water use, geological conditions, engineering construction, farm organization, and farm management be provided. Such services are also necessary in connection with the investigations of applications for facilities which are unsound.

Progress and Current Program: As of June 30, 1946, 8,616 loans to individuals, including supplemental loans, and 81 loans to groups had been approved in the amount of \$6,003,009 for the construction of water facilities either for farmstead use or for irrigation. In addition, \$390,962 was advanced in the form of grants, prior to 1943. No grants have been advanced under this program since 1943, and none are anticipated for 1947 or 1948. (See Tables I and II for distribution by states.) As of June 30, 1946, 104.4 per cent, including prepayments, of the amount due had been repaid. (See Table III.)

The following tabulation shows the kinds and numbers of separate water facilities completed or under construction during the fiscal year 1946 and in total to June 30, 1946:

Description	Water Facilities Completed or Under Construction	
	Fiscal Year 1946	Total to June 30, 1946
<u>Stock watering facilities</u>		
Number of ponds (new and repaired)	11	630
Number of wells (new and repaired)	513	3,642
Number of pumps (new and repaired)	444	2,060
Number of windmills (new and repaired)	213	2,539
Number of springs developed	20	162
Number of tanks	349	4,039
Other facilities	528	1,697
<u>Irrigation facilities</u>		
Number of dams (new)	7	203
Number of dams (repaired)	1	57
Number of wells (new)	87	792
Number of wells (repaired)	1	139
Number of pumps (new)	124	1,098
Number of pumps (repaired)	1	68
Number of distribution systems (new)	43	984
Number of distribution systems (repaired)	3	617
<u>Other facilities</u>		
Diversion and other	170	886
Total facilities completed or under construction as of June 30, 1946	<u>2,515</u>	<u>19,613</u>

During the fiscal year 1946, 213 original loans to individuals and 1 group loan, affecting 235 families, were approved to install irrigation facilities which will serve 9,616 acres. In addition, 870 original loans to individuals and 12 loans to groups, affecting 1,322 families, were approved for the installation of farmstead and livestock water facilities, such as ponds, wells, windmills, storage tanks, cisterns, and development of springs. That suitable loans for such purposes as these effectively stabilize farm operations was shown by a study of the progress of active water facilities borrowers in the United States in 1944. Those borrowers who obtained loans for irrigation facilities doubled their production of feed crops on approximately the same acreage and sold 20 per cent more livestock. Borrowers who obtained loans for farmstead facilities sold 25 per cent more livestock and livestock products. There was an accompanying increase in total farm income of more than 50 per cent. Additional benefits were the elimination of the high cost and time of hauling water, increased production of gardens, better use of farmers' time, and more diversity of farm enterprises.

A recent survey was made to determine the economic and production progress of water facility borrowers. It compared the economic and production information for the crop year before the facility was installed with the 1945 crop year. A few of the significant facts are as follows:

1. The borrowers increased their gross farm income by 55.4 per cent, and their net farm income by 58.7 per cent.
2. The net worth of all borrowers studied increased nearly 65 per cent. :
3. The average number of cattle and calves sold in 1945 was approximately nine, an increase of three over the year before installation.
4. Dairy products sales reflected an increase of 33 per cent.
5. The production of small grains was increased by 114 per cent and forage by 47 per cent.

The 1947 Program: Funds available during 1947 will permit the making of approximately 1,100 loans to individuals and 18 loans to groups. In the making of these loans, approximately 2,100 individuals and 94 group applications will be investigated. Around 50 new areas will be investigated to determine the extent of water supplies available for development and the economic soundness of proposed operations. In addition, there was a normal carryover of approximately 500 facilities to be, or in the process of being, constructed which require engineering supervision and inspection to assure soundness and future usefulness.

(c) Loans and Grants to Farmers, 1945 Flood Damage, 1946

Project	1946	1947 :(estimated):	1948 :(estimated)
1. Salaries and expenses	\$1,292:	- -:	- -
2. Loans	528,362:	- -:	- -
3. Grants	15,350:	- -:	- -
Unobligated balance	1,454,996:	- -:	- -
Total available	2,000,000:	- -:	- -
Reappropriation in 1946 of 1945	:	:	:
unobligated balance	+2,000,000:	- -:	- -
Total appropriation or	:	:	:
estimate	- -:	---:	- -

The objective was to provide for the making and servicing of loans and grants to farmers whose property was destroyed or damaged in whole or in part by windstorms in 1944 and floods in 1944 and 1945.

As of June 30, 1946, loans had been approved in the total amount of \$2,803,775 for 4,093 victims of these disasters. Of this amount \$1,470,568 had become due and \$1,281,887 had been repaid plus \$106,315 in interest. In addition, 167 grants in the total amount of \$33,912 had been approved.

This was an emergency program and the authority to make such loans and grants expired June 30, 1946.

UNITED STATES DEPARTMENT OF AGRICULTURE
FARMERS HOME ADMINISTRATION

Table I

Farm Tenancy: Method of Determining the Percentage Distribution
for Allocating Loan Funds, by States

State and territory (1)	Farm population 1940 a/ (2)	Percentage of tenancy 1940 b/ (3)	Allocation factor: Farm population multiplied by percentage of tenancy 1940 c/ (4)	Percentage distribution of funds d/ (5)	Adjusted Tenancy dollar distribution f/ (6)
U. S. TOTAL	31,782,907	38.591	12,351,408	100.0000000	\$ 35,000,000
Alabama	1,343,060	58.782	789,489	6.3918966	2,176,133
Arizona	114,448	11.588	13,262	0.1073742	100,000
Arkansas	1,113,102	53.279	593,050	4.8014734	1,634,671
California	670,426	19.146	128,360	1.0392317	353,808
Colorado	252,863	37.207	94,083	0.7617167	259,328
Connecticut	104,810	7.173	7,518	0.0608677	100,000
Delaware	45,974	32.566	14,972	0.1212160	100,000
District of Columbia	227	18.462	42	0.0003393	116
Florida	305,240	25.170	76,829	0.6220254	211,770
Georgia	1,367,627	60.107	822,040	6.6551315	2,265,854
Idaho	202,582	25.543	51,746	0.4189443	142,630
Illinois	978,907	43.095	421,860	3.4154806	1,162,807
Indiana	816,408	28.291	230,970	1.8699890	636,641
Iowa	930,810	47.574	442,824	3.5852068	1,220,590
Kansas	606,944	44.920	272,639	2.2073534	751,498
Kentucky	1,261,040	33.146	417,984	3.3841024	1,152,124
Louisiana	853,949	59.442	507,004	4.1096879	1,399,151
Maine	176,273	6.462	11,371	0.0922224	100,000
Maryland	245,623	26.107	64,125	0.5191699	176,752
Massachusetts	147,214	7.101	10,454	0.0846354	100,000
Michigan	870,832	16.952	147,623	1.1951951	406,906
Minnesota	914,609	32.337	295,757	2.3945212	819,219
Mississippi	1,403,142	66.240	929,444	7.5244817	2,561,995
Missouri	1,125,413	35.594	400,580	3.2431887	1,104,150
Montana	176,054	27.836	49,006	0.3967676	135,081
Nebraska	498,220	52.822	263,170	2.1306862	725,396
Nevada	15,862	14.442	2,291	0.0185468	100,000
New Hampshire	70,484	6.367	4,488	0.0363337	100,000
New Jersey	143,058	15.618	22,343	0.1808927	100,000
New Mexico	178,349	17.039	30,389	0.2460358	100,000
New York	730,453	12.754	93,162	0.7542620	256,790
North Carolina	1,659,477	44.372	736,343	5.9616124	2,029,042
North Dakota	327,943	45.127	147,991	1.1981697	407,919
Ohio	1,088,655	26.273	286,022	2.3157061	786,386
Oklahoma	930,412	54.440	506,516	4.1008786	1,396,151
Oregon	258,751	18.239	47,194	0.3820907	130,084
Pennsylvania	914,799	16.031	146,651	1.1873255	404,227
Rhode Island	17,308	10.252	1,774	0.0143661	100,000
South Carolina	916,611	56.110	514,310	4.1639819	1,417,636
South Dakota	307,318	52.996	162,666	1.3186046	448,922
Tennessee	1,275,582	40.278	513,779	4.1596678	1,416,171
Texas	2,159,548	48.914	1,056,321	8.5522334	2,911,625
Utah	104,658	13.286	13,905	0.1125771	100,000
Vermont	106,532	9.940	10,589	0.0857334	100,000
Virginia	986,447	26.936	265,709	2.1512474	732,397
Washington	340,402	17.704	60,265	0.4879182	166,112
West Virginia	532,615	22.742	121,127	0.9806760	333,873
Wisconsin	882,938	22.989	202,979	1.6433641	559,486
Wyoming	72,892	24.224	17,657	0.1429583	100,000
Alaska	2,393 e/	20.064	480	0.0038872	100,000
Hawaii	149,435 e/	70.667	105,601	0.8549732	291,078
Puerto Rico	1,084,168 e/	20.646 e/	223,837	1.8122413	616,981

a/ 1940 Census of Population b/ Number of tenant-operated farms divided by number of all farms for each State; Census of Agriculture, 1940.
c/ Total factor is sum of State Factors. d/ State factor divided by Column "4" total. e/ Estimated by the Bureau of the Census.
f/ Adjusted farm population and prevalence of tenancy distribution in accordance with the Farmers Home Administration Act of 1946 to allow not in excess of \$100,000 for each State or Territory, where the allocation would be less than \$100,000 under a direct farm population and prevalence of tenancy distribution.

Table II

Farm Tenancy: Loan Applications, Borrowers and Average per Borrower

State and Territory	Fiscal year 1944				Fiscal year 1945				Fiscal year 1946				Fiscal years 1948-49-50-51-52-53-54-55-56			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
U. S. TOTAL		73,538	3,255	\$ 5,035	63,116	1,853	\$ 5,917	85,351	3,657	\$ 7,610	11,142					
Alabama		5,680	324	4,187	4,955	176	4,672	5,835	82	5,983	3,323					
Arizona		19	2	10,995	52	2	8,053	127	8	5,983	3,323					
Arkansas		3,751	93	4,685	3,857	121	5,007	6,096	175	4,812	2,302					
California		651	15	11,012	547	13	11,554	934	38	11,482	268					
Colorado		471	21	10,127	667	10	11,134	1,174	35	10,327	229					
Connecticut		7	1	8,390	22	1	9,130	40	4	10,566	19					
Delaware		66	6	5,712	53	2	8,815	86	14	6,749	61					
Florida		914	21	4,653	663	11	4,718	1,113	37	6,097	336					
Georgia		5,153	318	4,154	4,828	220	4,123	5,741	158	5,019	4,076					
Idaho		211	11	10,357	164	5	10,333	1,170	40	10,726	116					
Illinois		1,812	53	9,036	1,450	11	8,908	1,035	11	7,768	710					
Indiana		1,290	56	9,115	1,685	31	8,217	1,700	66	9,154	572					
Iowa		1,583	82	8,777	1,279	31	8,615	1,508	5	8,719	919					
Kansas		1,519	71	8,313	930	35	8,325	1,508	99	9,120	734					
Kentucky		2,029	16	6,275	1,437	11	5,993	1,967	40	7,157	925					
Louisiana		2,113	43	6,313	2,035	48	5,938	2,969	24	5,597	1,481					
Maine		136	4	4,097	121	2	4,618	360	34	7,272	68					
Maryland		235	20	7,742	203	10	7,726	342	16	7,716	216					
Massachusetts		59	2	7,797	48	2	5,150	113	16	9,346	12					
Michigan		778	43	6,660	383	22	6,398	637	71	8,363	446					
Minnesota		1,575	95	7,109	1,199	43	7,921	1,378	146	7,200	825					
Mississippi		2,363	177	5,857	2,888	158	6,673	4,675	268	7,357	3,193					
Missouri		3,881	148	6,387	3,339	72	6,225	3,517	169	6,167	1,482					
Montana		212	5	11,060	317	6	9,417	1,361	48	10,671	136					
Nbraska		1,300	64	9,681	965	31	9,769	1,523	72	10,126	591					
Nevada		19	0	0	4	0	0	75	3	11,150	9					
New Hampshire		24	2	5,150	18	0	0	64	5	6,465	17					
New Jersey		62	6	9,044	142	2	9,900	201	56	9,532	116					
New Mexico		135	7	8,722	105	3	9,688	594	31	10,893	93					
New York		1,50	35	6,365	336	15	7,327	788	137	6,890	446					
North Carolina		5,594	207	4,699	4,813	89	4,432	4,603	73	4,905	2,654					
North Dakota		761	15	6,963	690	23	7,645	1,205	75	9,251	180					
Ohio		1,393	75	7,779	1,305	23	7,137	922	22	7,500	1,80					
Oklahoma		4,850	198	5,915	3,618	100	5,720	5,536	276	7,322	2,002					
Oregon		398	12	9,400	288	5	9,821	791	26	10,564	144					
Pennsylvania		938	55	5,791	720	22	6,759	1,348	154	6,109	653					
Rhode Island		0	0	0	5	0	0	8	0	0	2					
South Carolina		1,209	144	4,054	2,099	71	4,321	2,650	18	5,178	2,155					
South Dakota		602	45	8,590	587	26	7,567	857	64	9,234	172					
Tennessee		3,094	123	5,231	2,647	45	5,107	2,862	29	7,141	1,619					
Texas		7,117	311	7,170	6,568	189	6,105	10,157	599	8,718	3,561					
Utah		175	2	9,957	82	1	10,500	435	102	10,867	7,677					
Vermont		92	4	4,640	86	2	5,766	172	36	6,732	10,958					
Virginia		1,307	71	5,500	981	40	5,429	1,086	66	6,502	6,479					
Washington		454	16	8,141	252	7	8,708	1,044	28	10,392	866					
West Virginia		815	41	4,572	876	23	5,528	1,009	17	5,603	152					
Wisconsin		992	78	6,221	734	37	6,591	1,027	27	6,399	431					
Wyoming		85	4	10,397	75	1	10,703	318	120	10,196	672					
Alaska		0	0	0	0	0	0	14	1	7,010	1					
Hawaii		74	2	6,382	144	4	8,169	206	4	8,911	200					
Puerto Rico		2,710	51	5,344	2,024	49	3,684	1,923	61	4,423	649					

UNITED STATES DEPARTMENT OF AGRICULTURE
FARM SECURITY ADMINISTRATION

Table III

Farm Tenancy: Distribution of Loans, by States and by Fiscal Years 1/

State and Territory (1)	Fiscal Year 1938 (2)	Fiscal Year 1939 (3)	Fiscal Year 1940 (4)	Fiscal Year 1941 (5)	Fiscal Year 1942 (6)	Fiscal Year 1943 (7)	Fiscal Year 1944 (8)	Fiscal Year 1945 (9)	Non-Veterans (10)	Fiscal Year 1946 Veterans (11)	Cumulative as of June 30, 1946 (12)
U. S. TOTAL	\$ 8,914,209	\$ 23,248,713	\$ 36,006,648	\$ 45,677,327	\$ 45,246,562	\$ 29,246,262	\$ 21,922,404	\$ 11,776,887	\$ 11,767,272	\$ 16,302,704	\$250,109,026
Alabama	593,855	1,490,169	2,348,946	2,788,665	2,423,030	1,806,370	1,650,454	998,747	26,686	493,598	14,580,718
Arizona	12,266	30,965	43,257	22,920	22,920	2,570,450	24,990	16,106	21,900	71,470	335,373
Arkansas	475,711	1,193,749	1,905,934	2,221,209	1,567,049	1,311,144	813,574	648,512	156,259	700,185	10,993,326
California	90,907	226,042	368,445	469,379	520,456	206,165	168,607	189,724	247,264	189,710	2,637,699
Colorado	73,791	189,513	288,956	381,324	373,732	247,423	221,318	112,566	181,850	179,720	2,250,203
Connecticut	7,195	18,370	23,972	12,000	29,934	14,230	8,390	9,130	13,470	30,267	166,958
Delaware	11,600	25,115	46,136	61,007	56,726	22,900	36,365	17,630	26,516	67,975	371,970
Florida	58,145	154,840	217,258	243,188	228,498	178,161	167,204	82,204	39,880	189,804	1,559,272
Georgia	606,285	1,546,281	2,520,184	3,164,587	3,070,983	2,028,606	1,710,508	996,459	164,345	642,298	16,450,503
Iaho	39,045	99,955	159,256	204,738	209,700	136,797	114,543	53,264	102,085	326,985	1,446,368
Illinois	311,790	789,772	1,258,877	1,618,702	1,706,490	700,040	480,961	98,644	75,772	10,485	7,051,533
Indiana	185,182	468,538	745,737	946,206	977,880	596,121	522,816	277,643	465,734	139,104	5,284,961
Iowa	339,320	834,237	1,348,592	1,733,357	1,773,237	1,164,377	796,923	268,095	25,230	18,515	8,222,443
Massachusetts	109,046	281,246	447,406	568,512	594,055	365,329	344,248	158,850	115,485	359,140	6,551,337
Kentucky	322,550	813,277	874,490	1,164,887	1,697,463	1,060,734	292,187	74,158	210,742	68,180	6,558,648
Louisiana	344,017	873,588	1,500,231	1,650,319	1,489,517	1,121,974	514,323	357,783	29,775	114,258	7,995,585
Maine	41,790	19,046	28,572	33,592	30,835	28,432	24,753	11,098	24,651	226,059	1,372,798
Maryland	17,261	111,490	175,762	228,599	215,173	157,249	155,651	77,868	119,941	232,223	1,535,366
Massachusetts	109,046	281,246	447,406	568,512	594,055	365,329	344,248	158,850	115,485	359,140	6,551,337
Michigan	194,422	489,600	760,422	1,019,348	1,020,232	681,371	622,585	313,413	527,913	201,473	5,850,779
Minnesota	214,589	551,341	876,265	1,125,965	1,200,625	767,683	713,966	353,462	598,375	463,085	6,865,356
Mississippi	586,617	1,463,622	2,452,284	3,066,247	2,876,683	1,998,863	1,084,868	480,200	1,381,201	613,113	16,640,390
Missouri	314,412	806,283	1,276,089	1,640,317	1,616,476	955,485	950,609	869,102	669,102	428,760	9,139,753
Montana	33,731	90,875	146,731	170,365	194,679	104,641	56,455	58,800	96,752	416,740	1,369,775
Nebraska	194,422	489,600	760,422	1,019,348	1,020,232	681,371	622,585	313,413	527,913	201,473	5,850,779
Nevada	1,525	3,995	6,222	7,997	7,750	6,025	4,400	0	0	33,450	71,274
New Hampshire	3,650	9,775	10,240	12,608	12,532	11,769	10,900	0	8,992	103,803	103,803
New Jersey	13,600	44,477	50,941	92,740	92,537	58,714	54,268	20,868	44,411	421,367	963,883
New Mexico	72,189	23,985	63,101	129,891	110,480	43,070	66,189	31,564	56,631	281,065	907,031
New York	72,189	192,909	276,868	364,698	356,857	241,139	225,036	112,302	185,895	762,572	2,790,465
North Carolina	398,602	1,292,678	1,612,443	2,495,696	2,851,477	1,606,307	1,003,757	403,409	180,604	181,995	12,027,168
North Dakota	90,975	237,941	414,490	528,442	589,164	380,582	353,559	177,321	299,476	395,818	3,467,368
Ohio	223,814	573,876	901,848	1,139,092	1,154,950	742,408	584,922	202,202	102,486	5,688,978	5,688,978
Oklahoma	426,026	1,068,594	1,720,410	2,172,598	2,012,806	1,265,160	1,199,216	598,409	1,023,636	1,005,181	12,512,036
Oregon	37,130	95,145	149,825	188,426	182,581	116,470	114,526	49,143	57,640	217,201	1,208,087
Pennsylvania	115,788	284,919	463,185	602,200	557,359	376,805	342,307	158,403	295,033	693,349	3,889,348
Rhode Island	0	4,447	0	5,850	0	0	0	0	0	0	10,297
South Carolina	393,945	995,355	1,583,377	2,022,226	1,945,567	1,281,655	712,698	338,632	100,260	153,613	9,327,248
South Dakota	119,615	275,346	464,623	572,640	654,328	429,385	394,345	196,747	328,550	263,899	3,699,408
Tennessee	401,493	1,058,322	1,420,092	1,492,637	2,036,185	1,256,636	677,068	234,127	43,065	164,665	8,784,290
Texas	902,968	2,335,545	3,719,707	4,731,229	4,269,294	2,621,703	2,495,513	1,278,750	2,113,406	2,890,018	27,298,163
Utah	12,000	26,205	57,896	107,180	49,685	26,370	22,870	28,144	28,144	683,209	999,529
Vermont	8,800	21,422	31,842	46,846	44,441	27,643	18,562	12,282	18,781	179,665	414,422
Virginia	192,646	557,562	722,586	877,017	965,501	603,538	390,772	222,038	129,843	55,900	4,697,343
Washington	46,245	117,407	188,436	229,944	239,979	154,182	137,625	66,677	101,980	73,075	1,553,800
West Virginia	91,035	197,162	279,370	322,632	478,361	283,554	101,537	129,105	73,307	79,434	2,125,497
Wisconsin	131,520	327,950	516,175	684,101	822,887	529,280	488,845	246,505	400,164	362,505	4,519,032
Wyoming	11,850	29,750	46,775	62,674	71,465	44,360	42,887	17,429	34,840	597,575	759,605
Hawaii	25,450	175,847	286,045	392,999	104,390	148,468	13,765	34,475	26,547	9,100	1,217,086
Puerto Rico		166,015	310,645	708,156	698,828	565,020	211,955	197,567	226,249	50,621	3,214,656
Alaska								0	0	1,410	7,010

1/ Loan obligations, Title I, Farm Tenant Act, including supplemental loans to prior year borrowers. Also includes repair costs and recoverable costs.
Does not include \$9,028,944 representing non-cash advances.

UNITED STATES DEPARTMENT OF AGRICULTURE
FARMERS HOME ADMINISTRATION

Table IV Farm Tenancy: Loan Applications From Veterans of World War II,
Number of Loans and Average, 1946 Fiscal Year and
July 1, 1946, through December 31, 1946

State and territory	Fiscal year 1946			July 1, 1946, through December 31, 1946			Applications on hand end of period
	Number of loan applications	Loans approved		Number of loan applications	Loans approved		
		Number	Average amount		Number	Average amount	
1	2	3	4	5	6	7	
U.S. Total.....	29,529	2,063	\$7,893	42,515	1,495	\$7,848	36,340
Alabama.....	1,567	79	6,041	2,569	49	6,305	2,902
Arizona.....	90	6	11,911	97	6	11,100	67
Arkansas.....	2,546	132	5,303	3,671	86	5,438	3,329
California.....	353	16	11,856	345	9	11,517	273
Colorado.....	458	17	10,572	767	10	11,410	606
Connecticut.....	30	3	10,089	35	2	11,750	20
Delaware.....	47	10	6,797	50	8	8,061	43
Florida.....	575	29	6,451	1,231	37	6,981	1,042
Georgia.....	1,279	111	5,786	2,168	109	6,082	2,238
Idaho.....	664	29	11,275	916	35	10,405	713
Illinois.....	114	1	10,485	170	5	8,619	122
Indiana.....	304	14	9,936	379	17	8,196	292
Iowa.....	53	2	9,257	55	1	12,000	35
Kansas.....	395	37	9,706	544	21	9,372	405
Kentucky.....	587	10	8,818	816	23	9,225	688
Louisiana.....	874	21	5,437	1,373	18	6,780	1,201
Maine.....	228	30	7,536	240	17	6,813	222
Maryland.....	127	31	8,136	145	7	10,063	121
Massachusetts...	88	14	9,644	105	9	8,491	78
Michigan.....	430	55	8,840	431	28	9,440	252
Minnesota.....	498	70	6,615	591	58	7,463	273
Mississippi.....	1,776	96	6,385	3,053	123	6,546	2,697
Missouri.....	927	61	7,028	1,621	54	8,421	1,362
Montana.....	786	39	10,685	962	21	10,471	767
Nebraska.....	326	19	10,603	542	15	10,169	467
Nevada.....	72	3	11,150	96	6	11,833	75
New Hampshire...	49	3	7,779	60	1	5,730	38
New Jersey.....	172	52	9,449	130	21	8,763	91
New Mexico.....	403	25	11,242	629	26	11,433	554
New York.....	470	108	7,060	581	43	7,594	446
North Carolina..	880	34	5,352	1,380	34	5,661	1,029
North Dakota....	463	38	10,416	672	28	9,871	490
Ohio.....	175	8	7,927	228	10	10,809	172
Oklahoma.....	2,110	133	7,557	2,957	105	6,304	2,263
Oregon	346	20	10,860	537	9	10,972	495
Pennsylvania....	630	101	6,864	678	42	7,142	453
Rhode Island....	5	0	0	5	0	0	4
South Carolina..	602	24	6,400	601	17	6,047	816
South Dakota....	302	27	9,771	401	24	10,338	306
Tennessee.....	733	21	7,841	1,285	51	8,105	1,051
Texas.....	4,362	311	9,099	6,231	172	9,415	5,413
Utah.....	373	63	10,844	386	15	10,952	382
Vermont.....	94	23	7,811	117	21	7,507	73
Virginia.....	176	7	7,985	205	16	7,033	151
Washington.....	232	7	10,439	318	5	11,127	305
West Virginia...	286	12	6,619	327	16	6,429	267
Wisconsin.....	436	58	6,250	666	46	7,823	272
Wyoming.....	193	39	10,194	290	11	10,813	218
Alaska.....	6	1	7,010	4	1	10,000	0
Hawaii.....	10	1	9,100	4	1	7,442	5
Puerto Rico.....	827	12	4,168	851	6	5,394	756

UNITED STATES DEPARTMENT OF AGRICULTURE
FARM SECURITY ADMINISTRATION

Farm Tenancy: Number of Borrowers, Amount of Loans by Type of Expenditure, Fiscal Year 1946

Table V

State and Territory	Number of borrowers	Amount of loans by type of expenditure					Total amount of loans
		(1)	(2)	(3)	(4)	(5)	
		Purchase of farm and incidental costs	Land improvement	Buildings other than dwelling	New dwelling	Repair	
		(1)	(2)	(3)	(4)	(5)	(6)
U. S. TOTAL	3,657	78.8%	1.6%	9.0%	6.3%	4.3%	100.0%
Alabama	82	\$ 21,943,179	\$ 432,834	\$ 2,509,278	\$ 1,744,034	\$ 1,203,239	\$ 27,832,564
Arizona	8	305,301	10,669	58,528	96,668	19,462	490,628
Arkansas	175	76,353	6,755	5,892	6,375	0	95,370
California	38	673,781	5,618	63,814	57,430	45,876	847,519
Colorado	35	332,204	25,159	36,321	21,629	21,021	436,334
Connecticut	4	266,347	11,749	50,641	7,370	25,355	361,462
Delaware	14	19,860	1,250	14,512	5,425	1,220	42,267
Florida	37	80,576	230	10,465	0	3,220	94,491
Georgia	158	150,657	6,563	15,634	44,447	8,351	225,602
Iaho	40	554,354	16,893	63,056	118,525	44,950	791,758
Illinois	11	306,601	8,822	47,737	33,525	52,385	429,070
Indiana	11	75,228	3,135	5,254	0	1,837	85,454
Iowa	66	537,402	15,921	39,829	0	11,031	604,183
Kansas	5	38,670	1,387	2,561	0	1,327	43,745
Kentucky	99	763,910	7,224	78,559	22,574	30,700	902,967
Louisiana	40	260,424	5,486	19,318	0	13,086	298,284
Maine	24	95,394	3,904	10,347	16,062	8,632	134,339
Maryland	34	205,573	285	31,638	1,495	8,282	247,273
Massachusetts	48	310,174	987	2,370	40,304	17,976	371,811
Michigan	16	122,905	1,000	17,708	1,369	6,967	149,547
Minnesota	71	512,236	2,813	16,854	0	31,872	595,775
Mississippi	146	907,058	3,891	101,200	3,516	35,630	1,051,295
Missouri	268	1,151,569	43,330	248,160	491,527	37,095	1,971,701
Montana	169	909,227	41,512	75,326	8,425	98,528	1,095,018
Nebraska	48	384,584	764	42,448	46,338	38,101	512,235
Nevada	72	619,769	6,563	53,957	9,479	39,374	729,112
New Hampshire	3	20,600	2,250	6,200	4,250	150	33,450
New Jersey	5	28,615	0	3,049	0	665	32,329
New Mexico	56	441,113	797	73,986	5,079	12,858	533,843
New York	31	261,642	3,680	30,844	22,186	19,974	337,694
North Carolina	137	772,781	5,985	97,633	23,005	45,026	943,970
Ohio	73	282,804	12,008	30,140	8,462	24,705	358,120
North Dakota	75	568,266	3,480	75,395	6,142	40,568	693,853
Oklahoma	22	136,993	7,190	15,626	0	5,287	165,068
Oregon	276	1,756,042	10,697	120,822	53,818	79,709	2,021,088
Pennsylvania	26	210,146	7,407	26,442	17,841	12,840	274,676
Rhode Island	154	808,267	6,671	111,604	17,200	43,387	987,129
South Carolina	0	0	0	0	0	0	0
South Dakota	148	169,985	3,131	24,068	33,057	17,441	248,552
Tennessee	64	483,129	5,856	52,473	26,531	22,594	59,023
Texas	29	166,865	9,866	18,590	3,675	8,298	207,094
Utah	559	3,867,226	85,011	382,448	336,399	202,363	4,873,447
Vermont	65	510,868	6,179	81,895	75,354	32,107	706,447
Virginia	26	159,312	650	29,120	0	9,384	198,446
Washington	28	133,873	5,922	12,403	0	9,863	162,051
West Virginia	17	134,974	2,103	24,705	0	13,184	174,966
Wisconsin	27	124,598	5,789	12,944	0	7,953	151,284
Wyoming	120	694,702	4,245	48,694	0	20,358	767,999
Alaska	42	322,512	5,136	43,916	27,578	28,910	428,352
Hawaii	1	4,050	1,400	430	1,130	0	7,010
Puerto Rico	4	14,748	2,395	3,138	14,435	944	35,647
	61	189,401	3,856	2,170	73,378	1,045	289,950

1/ Excludes loans in 1946 fiscal year to prior year borrowers, supplemental loans to persons purchasing project units sold pursuant to Title I of the Bankhead-Jones Act, recoverable costs and repairs to repossessed property.

UNITED STATES DEPARTMENT OF AGRICULTURE
FARM SECURITY ADMINISTRATION

Table VI Farm Tenancy: Size of Farms by States, Fiscal Year 1946 and Cumulative as of June 30, 1946

State and Territory	Average acreage of all farms of 30 acres or more in 1940	Fiscal Year 1946			Cumulative through June 30, 1946	
		(2)	(3)	(4)	(5)	(6)
U. S. TOTAL	227 1/2	2,657	162		11,182	138
Alabama	109	82	94		3,223	101
Arizona	201	8	114		35	66
Arkansas	116	175	128		2,302	97
California	470	38	68		268	60
Colorado	736	35	377		229	278
Connecticut	112	4	52		19	102
Delaware	126	14	120		61	180
Florida	225	37	115		336	152
Georgia	123	158	127		4,076	123
Iowa	289	40	157		116	121
Illinois	167	11	137		710	142
Indiana	131	66	110		572	111
Iowa	176	5	139		919	143
Kansas	340	99	219		734	243
Kentucky	112	40	119		925	119
Louisiana	117	24	97		1,164	82
Maine	130	34	147		68	149
Maryland	137	48	130		216	114
Massachusetts	114	16	97		42	93
Michigan	113	71	124		446	121
Minnesota	178	146	116		825	169
Mississippi	115	268	73		3,193	86
Missouri	157	169	150		1,482	156
Montana	1,196	48	515		136	404
Nebraska	419	72	298		591	296
Nevada	1,331	3	98		9	189
New Hampshire	143	5	180		17	188
New Jersey	122	96	73		116	86
New Mexico	1,704	31	450		93	327
New York	136	137	134		446	139
North Carolina	96	73	77		2,654	91
North Dakota	523	75	445		180	495
Ohio	117	22	104		702	109
Oklahoma	220	276	197		2,002	185
Oregon	448	26	224		144	127
Pennsylvania	110	154	119		653	120
Rhode Island	116	0	0		2	38
South Carolina	119	48	96		2,155	103
South Dakota	564	64	459		472	444
Tennessee	108	29	119		1,619	119
Texas	407	159	162		3,561	195
Utah	418	65	125		102	111
Vermont	183	26	167		66	185
Virginia	146	28	117		866	135
Washington	353	17	191		152	117
West Virginia	125	27	123		431	136
Wisconsin	132	120	124		672	108
Wyoming	2,005	42	509		80	440
Alaska	3,577	1	80		1	80
Hawaii	3,054	4	33		200	56
Puerto Rico	143	61	39		649	30

1/ Based on state averages only; does not include territories and possessions.

Table VII

Actual Payments Compared With Fixed Payments Schedule of Tenant-Purchase Borrowers
On Variable Payment Plan, Cumulative as of March 31, 1946

State and Territory	Number of Borrowers On Variable Payment Plan	Actual Payments	Fixed Payment Schedule	Net Amount Ahead or Behind Schedule	Percent Ahead or Behind Schedule
U. S. Totals	28,239	\$ 42,667,556	\$ 24,299,786	\$ 18,367,770	76
Alabama	2,629	2,096,577	1,596,753	509,824	32
Arizona	22	48,270	29,629	18,641	63
Arkansas	1,461	1,145,318	927,949	217,410	23
California	191	462,651	258,254	204,417	79
Colorado	156	526,002	264,752	261,250	99
Connecticut	7	6,830	5,679	1,151	20
Delaware	34	35,328	24,763	10,565	43
Florida	247	202,068	157,715	44,353	28
Georgia	2,862	2,203,287	1,566,696	616,591	39
Idaho	82	229,961	109,433	120,528	110
Illinois	466	1,427,193	429,845	997,348	72
Indiana	402	1,156,410	574,735	581,675	101
Iowa	548	1,532,134	760,173	771,962	109
Kansas	949	1,374,795	743,585	631,210	85
Kentucky	668	1,866,168	783,703	1,082,465	138
Louisiana	1,062	1,035,969	754,622	281,347	37
Maine	31	33,053	16,648	16,405	99
Maryland	127	211,138	114,598	96,600	84
Massachusetts	24	26,882	18,868	8,015	42
Michigan	209	561,483	308,049	253,435	82
Minnesota	571	1,583,164	686,495	896,669	131
Mississippi	2,173	1,576,291	1,354,878	221,412	16
Missouri	1,006	1,640,134	953,682	686,452	72
Montana	77	213,854	125,488	94,366	75
Nebraska	428	1,552,973	656,432	896,541	144
Nevada	3	7,197	3,450	3,747	108
New Hampshire	10	10,754	8,157	2,596	42
New Jersey	44	63,114	44,800	18,314	54
New Mexico	47	151,317	74,063	77,254	104
New York	299	372,616	206,992	165,624	80
North Carolina	1,802	2,433,632	1,217,794	1,215,838	105
North Dakota	317	788,841	315,516	473,325	150
Ohio	399	896,407	480,288	416,118	87
Oklahoma	1,382	2,120,559	1,163,485	957,074	82
Oregon	94	194,682	107,215	87,467	82
Pennsylvania	400	535,374	331,422	203,952	62
Rhode Island	1	1,530	1,154	376	33
South Carolina	1,525	1,790,417	1,049,232	741,185	38
South Dakota	359	939,138	445,184	513,015	123
Tennessee	1,299	1,993,346	1,061,712	931,634	88
Texas	2,473	5,008,886	2,677,862	2,331,024	87
Utah	35	75,462	46,264	29,198	63
Vermont	37	41,330	23,927	17,403	38
Virginia	633	968,766	561,172	407,594	71
Washington	103	227,176	128,553	98,623	77
West Virginia	348	308,769	249,151	59,617	24
Wisconsin	444	1,022,697	381,203	641,493	169
Wyoming	28	53,693	34,572	19,021	55
Hawaii	139	200,804	136,084	64,720	48

Table VIII

Farm Tenancy: Loans, Maturities, Collections, Delinquencies and Prepayments Cumulative as of March 31, 1946 1/

Cumulative Loans Approved													
State and Territory	Number	Amount 2/	Maturities and Interest 3/	Collections			Delinquencies			Amount of Prepayments on 1946 Installments			Ratio of Principal and Interest Collections to Maturities 8/ (14)
				Principal Repayments 4/	Interest Payments 6/	Extra Principal Payments 7/	Unapplied Collections 8/	Total Collections 9/	Number 10/	Amount Principal and Interest 11/	Number 12/	Amount Principal and Interest 13/	
U. S. TOTAL	41,481	\$ 236,740,634	\$ 72,507,618	\$ 50,322,881	\$ 22,916,644	\$ 21,647,132	\$ 537,398	\$ 25,444,055	5,110	\$ 983,640	6,060	\$ 1,715,547	98.6
Alabama	3,322	14,411,377	3,444,534	2,102,580	1,328,200	2,182,696	27,566	5,641,062	338	38,478	261	24,724	98.9
Arizona	35	275,903	60,578	31,880	28,355	14,296	36	74,587	8	1,068	5	1,626	96.7
Arkansas	2,302	10,530,675	2,645,265	1,599,768	1,032,954	959,575	16,041	3,608,358	579	96,023	480	83,481	96.4
California	268	2,503,739	825,352	618,327	230,070	136,406	1,157	985,960	15	6,212	80	29,256	99.2
Colorado	229	2,111,692	800,068	614,200	195,812	188,104	1,367	899,483	9	3,369	27	13,311	99.6
Connecticut	19	123,221	26,945	14,214	12,974	16,096	357	43,595	0	0	5	243	100.0
Delaware	61	325,475	52,623	26,886	26,886	10,863	121	90,435	2	968	6	1,300	99.7
Florida	336	1,466,689	292,100	164,965	114,922	214,625	8,256	502,768	89	14,289	34	2,076	95.1
Georgia	4,076	15,901,146	3,983,017	2,424,160	1,542,358	2,092,576	11,697	549,799	505	59,359	228	27,840	98.5
Iaaho	146	1,243,297	448,608	356,340	98,609	84,776	10,074	549,799	11	10,095	35	16,437	97.7
Illinois	710	7,025,772	2,428,073	1,653,833	839,238	653,457	23,713	3,170,241	51	17,412	144	62,690	100.1
Indiana	572	5,176,570	1,780,416	1,313,076	497,643	394,380	10,875	2,215,974	34	9,877	133	59,599	98.3
Iowa	919	8,203,113	2,927,406	2,101,959	921,680	883,910	21,826	3,939,375	22	5,119	117	81,353	99.8
Kansas	734	6,000,987	2,201,892	1,691,967	598,098	290,760	3,026	2,543,811	60	17,423	114	65,556	99.2
Kentucky	925	6,450,496	2,789,601	2,085,345	710,380	886,573	16,155	3,640,457	44	13,726	65	19,855	99.5
Louisiana	1,484	7,904,207	1,932,111	1,159,195	779,996	610,805	16,898	2,566,894	346	65,019	393	72,099	96.6
Maine	68	267,724	79,009	57,497	21,268	13,019	6,253	38,137	14	1,574	10	1,370	98.0
Maryland	216	1,219,902	293,414	189,238	108,907	83,214	16,059	397,418	15	3,896	18	8,587	98.7
Massachusetts	42	193,517	42,059	19,726	14,643	5,643	105	40,093	7	7,848	2	135	81.3
Michigan	446	3,151,235	985,216	695,562	312,651	232,165	15,940	1,296,318	26	3,496	69	26,492	99.6
Minnesota	825	6,500,766	2,658,393	2,019,297	694,475	440,699	59,452	3,213,923	71	9,383	116	64,763	99.6
Mississippi	3,193	13,736,405	3,186,482	1,824,701	1,347,067	1,205,187	24,073	4,401,118	731	130,091	772	115,464	95.9
Missouri	1,482	8,704,099	2,620,659	1,823,358	683,648	695,868	22,767	3,387,601	105	28,129	263	76,456	98.9
Montana	136	1,093,921	305,437	225,897	87,302	37,292	1,675	350,166	16	4,858	10	10,601	98.4
Nebraska	591	5,377,115	2,590,689	2,149,299	504,410	205,680	12,460	2,871,849	38	18,620	112	81,641	99.3
Nevada	9	59,794	9,928	5,922	4,178	1,409	0	11,519	1	169	2	350	98.3
New Hampshire	17	81,506	10,892	5,878	7,604	8,428	0	21,908	0	0	5	2,651	100.0
New Jersey	116	627,711	91,205	46,001	45,831	34,026	1,697	127,555	7	2,843	5	3,470	96.9
New Mexico	93	656,701	256,904	204,704	57,010	27,474	0	289,188	11	2,991	15	7,802	98.8
New York	446	2,095,594	607,569	423,148	190,176	111,608	7,225	732,157	33	3,468	48	9,222	99.4
North Carolina	2,654	11,863,022	4,311,808	3,108,576	1,221,517	1,641,386	15,185	5,986,664	182	23,750	209	42,036	99.4
North Dakota	480	3,052,301	1,505,037	1,273,328	236,265	57,389	1,295	1,568,237	40	14,499	40	19,095	99.0
Ohio	702	5,687,668	1,664,820	1,107,459	598,379	836,156	12,365	2,594,359	41	13,552	155	54,568	99.2
Oklahoma	2,002	1,853,710	3,720,997	2,658,807	1,118,227	900,521	9,676	4,687,231	298	43,780	388	99,816	98.8
Oregon	144	1,036,793	359,081	266,294	97,670	68,229	8,888	441,081	14	4,401	32	9,284	98.8
Pennsylvania	653	3,149,212	914,198	519,065	302,268	206,235	39,007	1,060,575	66	10,199	88	17,333	98.7
Rhode Island	2	10,297	6,510	1,567	0	0	0	8,077	0	0	1	346	100.0
South Carolina	2,155	9,405,015	2,439,713	1,447,859	592,282	1,162,092	18,484	3,580,717	337	55,084	95	15,514	97.7
South Dakota	472	1,395,205	3,444,212	1,116,438	299,849	89,331	9,687	2,515,305	48	19,419	58	40,402	98.6
Tennessee	1,619	8,721,944	3,091,642	2,206,476	923,108	943,046	27,092	4,099,722	143	28,855	299	66,779	99.1
Texas	3,561	25,395,399	7,812,393	5,612,799	2,390,095	14,254,288	28,432	9,456,754	359	91,305	781	281,804	98.8
Utah	102	806,761	82,810	57,752	29,586	13,871	2,600	103,811	4	970	14	5,490	98.8
Vermont	66	251,701	19,632	26,406	23,458	14,237	1,475	65,576	1	5	4	233	100.0
Virginia	866	4,645,293	1,524,130	1,048,311	479,554	559,306	15,612	2,102,783	47	11,038	65	14,413	99.3
Washington	152	1,210,486	359,454	274,572	122,728	95,237	2,706	495,243	31	10,499	35	12,346	97.3
West Virginia	431	2,109,829	439,121	241,862	197,413	192,198	5,980	637,453	69	10,940	49	11,054	97.5
Wisconsin	672	4,165,082	1,595,972	1,246,428	580,809	435,937	20,457	2,083,611	18	3,742	75	32,873	99.9
Wyoming	80	409,364	84,417	53,517	32,375	33,452	0	119,544	4	821	8	4,430	96.5
Hawaii	200	1,198,087	387,749	273,724	127,686	281,625	0	685,035	8	2,476	37	16,136	99.4
Puerto Rico	649	3,013,871	176,034	101,954	214,583	131,914	1,506	451,957	272	62,402	15	965	83.5

1/ Exclusive of State Rural Rehabilitation Corporation trust funds.

2/ Inclusive of recoverable and repair cost.

3/ Exclusive of extra payments and prepayments. For variable payment borrowers, maturities represent the amount the borrowers should pay based on agricultural income received. For fixed payment borrowers, maturities represent the amount which borrowers are required to pay in order to retire their indebtedness in 40 years.

4/ Exclusive of extra payments.

5/ Refunds and payments from non-agricultural income.

6/ Collections unapplied as to principal or interest as of March 31, 1946.

7/ Included in principal repayments and interest payments. Prepayments represent payments against installments which fall due at the close of the calendar year or the borrower's fiscal year and which have not yet been returned.

8/ (Columns 5 and 6 minus column 13) + Column 4.

UNITED STATES DEPARTMENT OF AGRICULTURE
FARM SECURITY ADMINISTRATION

Table 1/ Farm Tenancy: Loans, Collections and Amounts Outstanding by Fiscal Year 1/

Fiscal year	Amount of loans approved 2/	Collections			Extra Payments 4/	Net Change in Amount Outstanding
		Principal 3/	Interest	Total		
(1)	(2)	(3)	(4)	(5)	(6)	(7)
1938	\$ 8,914,209	\$ 105,134	\$ 56,994	\$ 162,128	0	\$ 8,914,209
1939	23,248,713	446,800	511,765	958,565	208,911	23,143,579
1940	36,006,648	1,161,375	1,312,001	2,473,376	442,072	37,559,848
1941	45,677,327	3,585,380	2,488,204	6,073,584	816,714	44,215,592
1942	45,246,562	9,336,428	3,744,782	13,081,210	2,780,561	41,661,182
1943	29,246,269	15,641,053	4,759,132	20,400,185	4,634,053	19,909,841
1944	21,922,404	17,623,194	5,365,695	26,028,120	6,072,345	6,881,351
1945	17,623,194	20,662,425	4,925,831	28,615,221	8,072,261	3,059,231 Cr
1946	31,262,644	23,689,430				7,573,214
Total	\$259,147,970 7/	\$ 74,628,085	\$ 23,164,404	\$ 97,792,489	\$ 23,026,897	

Unapplied Collections 6/30/46

436,838

GRAND TOTAL COLLECTIONS

\$ 98,229,327

1/ Exclusive of State Rural Rehabilitation Corporation Trust Funds.

2/ Inclusive of Recoverable and Repair Costs.

3/ Inclusive of Extra Payments.

4/ Included in Columns (3) and (5).

5/ Includes \$5,846,367 non-cash advances.

6/ Includes \$3,192,577 non-cash advances.

7/ Includes \$9,056,944 non-cash advances.

UNITED STATES DEPARTMENT OF AGRICULTURE
FARM SECURITY ADMINISTRATION

RR Loan Applications from Veterans of World War II
Number of Loans and Average, Fiscal Year 1946

Table X

State and Territory	Loans approved			Applications on hand end of period		
	Number of original loan applications	Number	Average amount	Number	Average amount	
(1)	(2)	(3)	(4)	(5)	(6)	(7)
U. S. TOTAL	32,104	15,229	\$ 1,597	1,772	\$ 760	4,667
Alabama	802	283	710	24	284	41
Arizona	66	16	1,547	6	1,333	0
Arkansas	1,631	640	981	150	1,588	234
California	321	119	2,078	15	1,105	59
Colorado	706	268	1,790	36	1,256	89
Connecticut	34	14	1,409	0	0	4
Delaware	32	25	1,772	8	1,169	1
Florida	253	102	815	12	500	20
Georgia	649	144	848	23	679	76
Idaho	666	362	1,903	40	1,238	37
Illinois	502	239	1,767	15	709	66
Indiana	156	188	1,806	16	1,420	71
Iowa	680	389	2,026	50	664	65
Kansas	1,093	384	1,693	65	1,028	128
Kentucky	609	324	594	84	1,465	12
Louisiana	748	277	1,042	26	721	108
Maine	266	155	1,740	15	1,072	31
Maryland	153	77	1,858	15	845	19
Massachusetts	19	29	1,752	4	725	8
Michigan	975	612	1,720	77	1,047	83
Minnesota	1,202	731	1,858	47	929	127
Mississippi	1,105	418	746	74	284	212
Missouri	1,701	786	1,479	110	900	271
Montana	622	282	2,140	16	588	81
Nebraska	1,048	485	2,099	51	1,059	132
Nevada	59	11	2,575	2	1,750	11
New Hampshire	82	29	1,805	4	1,200	15
New Jersey	128	99	1,787	6	1,348	16
New Mexico	537	247	1,699	36	646	104
New York	538	299	2,122	14	1,455	75
North Carolina	558	323	699	50	327	33
North Dakota	918	458	2,019	33	941	211
Ohio	385	214	1,469	25	966	36
Oklahoma	3,656	1,632	1,606	168	688	845
Oregon	330	134	1,781	18	1,113	28
Pennsylvania	558	390	1,549	19	828	113
Rhode Island	15	5	1,420	0	0	0
South Carolina	354	144	829	8	212	11
South Dakota	1,106	682	2,133	35	1,379	150
Tennessee	463	193	671	32	488	29
Texas	3,531	1,542	1,655	216	574	710
Utah	311	198	1,710	14	822	28
Vermont	68	39	2,200	5	1,255	19
Virginia	160	91	624	8	374	11
Washington	250	102	1,974	10	1,210	28
West Virginia	156	75	799	9	273	16
Wisconsin	967	584	1,847	32	1,024	96
Wyoming	393	229	2,314	26	1,048	44
Alaska	7	4	1,875	0	0	2
Hawaii	9	4	2,212	0	0	1
Puerto Rico	95	41	1,268	3	248	62
Virgin Islands	1	1	940	0	0	0

Table XL

Active Standard Rural Rehabilitation Borrowers in 1945:
Acres in Farm and Acres in Crops
During Year Before Acceptance on Rural Rehabilitation Program and in 1945

State	Acres in farms				Acres in crops			
	Before acceptance	1945	Amount	Change	Before acceptance	1945	Amount	Change
				Percent				Percent
	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
U. S. TOTAL	111	176	65	52	47	78	31	66
Alabama	60	78	18	30	26	35	9	35
Arizona	96	189	93	97	36	60	24	67
Arkansas	61	98	37	61	24	40	16	67
California	87	116	29	33	33	147	14	42
Colorado	274	500	226	82	102	167	65	64
Connecticut	73	94	21	29	24	38	14	58
Delaware	95	152	57	60	56	94	38	68
Florida	66	84	18	27	31	43	10	32
Georgia	86	110	24	28	35	43	8	23
Idaho	115	182	67	58	47	85	38	81
Illinois	74	168	94	127	49	107	58	118
Indiana	67	154	87	130	42	99	57	136
Iowa	85	169	84	99	50	105	55	110
Kansas	149	246	97	65	84	144	60	71
Kentucky	95	124	29	31	37	53	16	43
Louisiana	58	60	2	3	24	34	10	42
Maine	115	137	22	19	44	55	11	25
Maryland	170	198	28	16	62	87	25	40
Massachusetts	59	69	10	17	20	25	5	25
Michigan	86	135	49	57	43	73	30	70
Minnesota	96	190	94	98	54	104	50	93
Mississippi	69	83	14	20	24	31	7	29
Missouri	101	153	52	51	35	65	30	86
Montana	451	789	338	75	88	161	83	131
Nebraska	124	251	127	102	67	155	88	131
Nevada	173	251	78	45	54	75	21	39
New Hampshire	116	176	60	52	33	48	15	45
New Jersey	53	64	11	21	31	39	8	26
New Mexico	202	382	180	89	59	101	45	76
New York	115	148	33	29	53	70	17	32
North Carolina	73	83	10	14	22	28	6	27
North Dakota	221	477	256	116	103	290	127	123
Ohio	78	134	56	72	39	78	39	100
Oklahoma	128	206	78	61	64	109	61	61
Oregon	113	167	49	42	48	69	21	44
Pennsylvania	89	126	37	42	45	69	24	53
Rhode Island	66	87	21	32	19	24	5	26
South Carolina	67	76	9	13	29	37	8	28
South Dakota	254	506	252	99	112	203	91	81
Tennessee	88	110	22	25	33	48	15	45
Texas	104	170	66	63	63	97	34	54
Utah	135	189	54	40	51	80	29	57
Vermont	158	209	51	32	49	63	14	29
Virginia	89	108	19	21	25	36	11	44
Washington	115	141	26	23	40	42	2	5
West Virginia	111	115	-26	-18	23	28	5	22
Wisconsin	72	145	73	101	33	71	38	115
Wyoming	526	749	223	42	81	116	35	43

Source: Data from a study of active standard rural rehabilitation borrowers in 1945 based on a sample approved by the Bureau of Agricultural Economics and the Bureau of the Budget.

Table XL

Active Standard Rural Rehabilitation Borrowers in 1945,
Total Assets, Total Owed, Net Worth and Working Capital
At End of Year Before Acceptance on the Rural Rehabilitation Program and at End of 1945

State	Total assets				Total owed				Net worth				Working capital			
	End of 1945		Change		End of 1945		Change		End of 1945		Change		End of 1945		Change	
	Before acceptance	(2)	Amount	Percent	Before acceptance	(6)	Amount	Percent	Before acceptance	(10)	Amount	Percent	Before acceptance	(14)	Amount	Percent
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)
U. S. TOTAL	\$ 1,680	\$ 4,078	\$ 2,398	143	\$ 662	\$ 1,333	\$ 664	92	\$ 1,011	\$ 2,745	\$ 1,734	172	\$ 722	\$ 2,356	\$ 1,634	226
Alabama	450	1,468	1,018	226	113	620	477	334	307	848	511	176	212	821	609	287
Arizona	3,774	7,590	4,156	296	1,248	2,599	1,311	105	2,526	5,371	2,851	113	1,367	3,602	2,215	160
Arkansas	449	1,777	1,368	296	94	355	469	520	355	2,494	859	296	195	984	799	465
California	4,978	10,317	5,399	202	2,162	3,341	1,179	55	2,816	6,976	4,160	118	1,908	4,361	2,873	191
Colorado	1,910	5,768	3,858	202	976	2,445	1,469	151	934	3,323	2,389	256	949	3,613	2,664	284
Connecticut	6,179	10,009	3,830	62	3,819	4,407	588	15	2,360	5,602	3,242	137	1,987	4,345	2,358	119
Delaware	1,696	4,711	3,015	178	783	1,968	1,185	116	913	1,970	1,057	205	1,011	2,364	1,353	223
Florida	1,39	2,653	1,514	133	251	734	483	192	1,919	1,931	1,012	116	1,179	3,179	1,999	175
Georgia	564	1,983	1,419	282	202	615	413	219	362	1,938	1,576	270	1,097	2,871	1,774	357
Idaho	3,679	8,932	5,153	110	1,178	2,927	1,049	71	2,201	6,305	4,104	186	1,351	4,454	3,103	230
Illinois	1,398	4,098	2,700	193	556	1,326	770	138	842	2,772	1,930	229	827	3,074	2,247	272
Indiana	1,934	4,581	2,647	137	523	1,336	813	155	1,111	3,245	2,134	130	797	3,224	2,427	305
Iowa	2,278	5,572	3,294	115	1,047	1,893	846	81	1,231	3,679	2,448	199	1,123	3,823	2,700	240
Kansas	5,822	8,957	3,135	54	3,722	3,938	216	6	2,100	5,019	2,919	139	1,677	3,588	2,015	262
Kentucky	1,165	3,408	1,945	133	282	1,481	199	71	1,181	2,927	1,746	118	518	1,591	1,073	207
Louisiana	794	2,123	1,329	167	202	697	495	225	592	1,466	874	118	309	1,094	785	254
Maine	4,400	7,995	3,495	79	2,127	2,459	332	16	2,273	5,136	3,163	139	1,460	3,810	2,350	161
Maryland	2,849	5,904	2,655	93	826	1,650	824	100	2,023	3,854	1,831	91	1,131	2,827	1,696	150
Massachusetts	5,822	8,957	3,135	54	3,722	3,938	216	6	2,100	5,019	2,919	139	1,677	3,588	2,015	262
Michigan	2,640	6,157	3,517	133	1,062	1,970	908	85	1,578	4,187	2,609	165	1,043	3,135	2,092	201
Minnesota	2,225	5,235	3,010	135	1,184	2,404	1,220	103	1,041	2,931	1,790	172	1,102	3,401	2,299	209
Mississippi	770	1,974	1,204	156	206	523	317	134	564	1,515	887	157	244	975	731	300
Missouri	1,271	3,310	2,039	160	510	1,091	581	111	761	2,219	1,458	192	554	2,001	1,447	261
Montana	3,089	7,950	4,761	154	1,262	3,005	1,743	138	1,827	4,845	3,018	165	1,475	4,943	3,468	235
Nebraska	1,225	4,346	3,121	255	554	1,553	999	180	671	2,793	2,122	316	768	3,558	2,790	363
Nevada	5,925	12,526	6,601	111	1,738	2,782	1,044	60	1,487	9,744	5,557	133	2,240	6,443	4,203	188
New Hampshire	3,816	7,670	3,854	101	1,927	3,477	1,550	80	1,889	4,193	2,304	122	1,336	4,066	2,730	204
New Jersey	4,468	7,931	3,463	78	2,305	3,434	1,129	149	2,163	4,497	2,334	108	1,608	3,860	2,252	110
New Mexico	2,006	6,650	2,644	132	1,442	1,368	886	200	1,364	3,322	1,768	112	859	2,523	1,664	194
New York	3,559	6,975	3,416	96	2,125	3,154	1,029	48	1,404	3,821	2,417	172	1,450	3,981	2,531	175
North Carolina	1,105	2,442	1,337	121	278	393	115	41	827	2,049	1,222	118	392	1,278	886	226
North Dakota	2,039	5,655	3,616	177	1,219	1,789	570	47	820	3,866	3,046	371	1,085	3,780	2,695	248
Ohio	2,034	5,177	3,143	155	937	1,489	552	59	1,097	3,688	2,591	236	871	3,168	2,297	244
Oklahoma	1,225	3,823	2,094	147	504	1,149	645	128	925	2,371	1,449	157	800	2,229	1,429	179
Oregon	4,755	6,641	3,886	82	1,854	2,804	950	51	2,901	5,837	2,936	101	1,511	3,797	2,286	151
Pennsylvania	2,951	6,260	3,299	111	1,363	2,264	901	66	1,598	3,996	2,398	150	2,306	3,736	2,430	186
Rhode Island	6,246	7,812	1,566	107	3,183	3,234	111	3	3,443	1,578	1,075	168	2,351	3,306	955	14
South Carolina	577	1,430	853	177	167	1,491	331	207	1,077	1,276	793	168	273	3,079	706	299
South Dakota	1,507	5,615	4,253	351	1,052	2,275	1,223	116	1,083	3,369	3,170	1,601	871	4,194	3,323	382
Tennessee	1,502	3,274	1,772	118	303	536	235	77	1,199	2,738	1,539	128	578	1,777	1,199	207
Texas	1,033	3,544	1,711	93	542	1,466	624	115	1,201	2,748	1,087	84	727	1,844	1,087	180
Utah	4,657	9,654	4,997	107	1,889	2,688	799	42	2,763	5,966	4,198	152	1,479	4,167	2,688	182
Vermont	3,273	6,281	2,988	91	1,885	2,936	1,051	56	1,388	3,255	1,937	131	1,321	3,466	2,145	156
Virginia	1,684	3,276	1,652	102	468	608	140	30	1,156	2,668	1,512	131	530	3,174	2,644	178
Washington	3,923	7,972	4,049	103	1,648	2,970	1,322	80	2,275	5,002	2,727	120	1,560	3,449	1,869	118
West Virginia	2,070	3,617	1,547	75	627	753	126	20	1,443	2,864	1,421	98	670	1,587	917	137
Wisconsin	2,230	6,012	3,782	170	920	2,506	1,586	151	1,310	2,766	1,456	189	971	3,698	2,667	275
Wyoming	3,662	9,410	5,748	157	1,901	3,460	1,559	82	1,761	5,950	4,189	236	1,759	5,195	3,436	159

Sources: Data from a study of active standard rural rehabilitation borrowers in 1945 based on a sample approved by the Bureau of Agricultural Economics and the Bureau of The Budget.

UNITED STATES DEPARTMENT OF AGRICULTURE
FARM SECURITY ADMINISTRATION

Table XIII
Active Standard Rural Rehabilitation Borrowers in 1945:
Gross Income, Farm Operating Expenses, Net Income During 1945,
Working Capital at Beginning and End of 1945, and Change in Working Capital During Year

State	Gross income				Other income	Total	Farm operating expenses	Net income	Working capital			
	(1)	(2)	(3)	(4)					(5)	(6)	(7)	(8)
U. S. TOTAL		\$ 1,544	\$ 430	\$ 306	\$ 177	\$ 2,457	\$ 852	\$ 1,605	\$ 1,893	\$ 2,356	\$ 463	24
Alabama		506	351	158	65	1,080	299	781	693	821	128	18
Arizona		2,716	354	715	362	4,147	1,850	2,297	2,876	3,602	726	25
Arkansas		643	401	262	79	1,385	330	1,055	821	984	169	20
California		4,223	334	806	488	5,951	2,927	3,024	3,499	4,381	882	25
Colorado		2,450	302	397	331	3,480	1,363	2,117	3,044	3,643	599	20
Connecticut		4,774	430	1,157	632	6,993	4,472	2,521	4,110	4,345	235	6
Delaware		2,398	484	298	239	3,419	1,767	1,652	2,859	3,364	505	18
Florida		780	343	315	92	1,530	439	1,091	1,018	1,179	161	16
Georgia		853	425	216	81	1,605	458	1,147	870	1,097	227	26
Idaho		2,875	346	527	357	4,105	1,539	2,566	3,402	4,454	1,052	31
Illinois		1,777	476	286	188	2,727	1,034	1,713	2,284	3,074	790	35
Indiana		1,870	426	312	205	2,483	1,014	1,806	2,501	3,224	933	41
Iowa		2,983	445	113	221	3,722	1,236	2,486	2,843	3,825	975	29
Kansas		1,734	343	394	226	2,677	926	1,748	2,447	2,783	336	34
Kentucky		990	534	168	221	1,913	385	1,528	1,178	1,591	413	35
Louisiana		770	400	226	116	1,512	439	1,073	904	1,094	190	21
Maine		3,819	424	206	165	4,862	2,706	2,156	3,104	3,810	706	23
Maryland		2,015	464	275	165	2,919	1,444	1,475	2,159	2,827	628	29
Massachusetts		4,743	413	931	393	6,482	3,978	2,504	2,843	3,588	745	26
Michigan		1,631	352	573	296	2,852	930	1,922	2,567	3,135	568	22
Minnesota		2,061	362	243	258	2,924	1,225	1,699	2,491	3,401	710	26
Mississippi		1,603	372	221	71	1,267	309	958	794	975	181	23
Missouri		1,158	517	255	172	2,102	674	1,428	1,581	2,001	420	27
Montana		2,827	371	327	234	3,759	1,573	2,186	4,203	4,943	740	18
Nebraska		2,200	354	170	164	2,888	1,070	1,818	2,960	3,558	598	20
Nevada		2,981	431	660	201	4,273	1,765	2,528	5,038	6,443	1,405	28
New Hampshire		3,265	501	612	441	4,819	2,330	2,489	3,488	4,066	578	17
New Jersey		5,611	320	601	181	6,713	4,215	2,498	3,047	3,860	813	27
New Mexico		1,280	417	348	236	2,281	875	1,406	2,130	2,523	393	18
New York		2,991	425	565	455	4,436	1,931	2,505	3,343	3,981	638	19
North Carolina		1,267	554	146	60	2,027	471	1,556	1,012	1,278	266	26
North Dakota		2,551	411	172	252	3,386	1,091	2,295	2,999	3,780	781	26
Ohio		2,004	502	388	190	3,084	1,031	2,053	2,460	3,168	708	29
Oklahoma		1,341	533	386	159	2,419	714	1,705	2,229	2,229	409	22
Oregon		2,868	345	704	295	4,212	1,977	2,235	3,009	3,797	788	26
Pennsylvania		2,221	482	654	221	3,578	1,523	2,055	3,087	3,736	649	21
Rhode Island		4,619	463	1,043	472	6,597	3,395	3,202	2,902	3,306	404	14
South Carolina		810	398	187	44	1,439	422	1,017	847	979	132	16
South Dakota		2,563	367	3,280	171	1,143	1,143	2,137	3,114	4,194	1,080	35
Tennessee		968	443	216	98	1,725	384	1,341	1,362	1,777	415	30
Texas		1,206	451	359	198	2,214	801	1,413	1,624	1,814	200	12
Utah		2,730	431	612	337	4,110	1,470	2,640	3,437	4,167	730	21
Vermont		2,866	429	321	576	4,192	1,920	2,272	3,067	3,386	319	10
Virginia		1,015	513	235	88	1,851	430	1,421	1,197	1,474	277	23
Washington		2,752	382	868	214	4,216	1,864	2,352	2,871	3,449	578	20
West Virginia		729	453	547	174	1,903	439	1,464	1,371	1,587	216	16
Wisconsin		2,092	438	347	295	3,172	1,119	2,053	2,756	3,638	882	32
Wyoming		2,987	315	383	408	4,093	1,508	2,585	4,248	5,195	947	22

Source: Data from a study of active standard rural rehabilitation borrowers in 1945 based on a sample approved by the Bureau of Agricultural Economics and the Bureau of the Budget.

UNITED STATES DEPARTMENT OF AGRICULTURE
FARM SECURITY ADMINISTRATION

Table X/IV
Rural Rehabilitation Loans and Collections by Fiscal Years 1/

Fiscal year	Loan Obligations	Collections			Total
		Principal	Interest		
(1)	(2)	(3)	(4)	(5)	
1936	\$ 76,962,281	\$ 991,875	\$ 9,329	\$ 1,001,814	
1937	74,501,314	22,089,409	923,128	23,012,537	
1938	70,191,639	26,117,504	1,221,805	27,339,309	
1939	119,051,005	33,209,970	736,731	33,946,661	
1940	97,758,893	47,332,631	7,622,735	54,958,366	
1941	118,037,990	51,220,014	11,155,901	62,375,915	
1942	122,466,380	81,403,546	13,460,341	94,863,887	
1943	96,599,591	114,765,976	13,954,800	128,720,776	
1944	67,360,871	107,823,308	18,576,555	126,599,865	
1945	78,521,108 2/	106,483,680	15,531,127	122,014,807	
1946	84,121,744 3/	97,249,841	12,154,132	109,403,973	
Total	\$1,005,392,816 4/	\$688,690,714	\$ 95,247,194	\$784,037,908	

1/ Includes all Rural Rehabilitation loans to individuals and groups; includes \$2,964,135 obligations for Water Facilities Loans in arid and semi-arid areas under the Pope-Jones Act, does not include Corporation Trust Funds

2/ Includes \$10,943,280 non-cash advances

3/ Includes \$52,855 non-cash advances

4/ Includes \$11,466,133 non-cash advances

UNITED STATES DEPARTMENT OF AGRICULTURE
FARM SECURITY ADMINISTRATION
Rural Rehabilitation Loans, Maturities and Collections
Cumulative through June 30, 1946 1/

Table XV

State and Territory	Loan Obligations 2/	Matured Principal	Collections		Ratio of total collections to total loans	Ratio of principal payments to matured principal
			Principal Repayments 3/	Interest Payments 4/		
U. S. TOTAL	\$1,005,392,816	\$762,462,900	\$698,690,714	\$92,247,194	78.0	90.3
Alabama	45,088,084	36,398,052	28,264,372	4,172,109	71.9	77.7
Arizona	3,949,704	3,318,598	2,969,589	349,100	85.8	89.5
Arkansas	46,773,704	35,488,637	33,023,723	3,580,049	78.3	93.1
California	16,586,205	16,013,283	12,893,690	1,885,690	89.1	80.5
Colorado	27,944,313	22,127,704	18,694,994	2,897,477	77.8	85.2
Connecticut	1,194,934	1,175,495	1,056,659	117,907	98.3	89.9
Delaware	696,605	375,914	310,879	54,355	52.4	82.7
Florida	13,132,783	10,327,355	7,695,866	1,281,924	68.1	74.1
Georgia	41,927,470	33,296,661	26,246,708	3,697,804	72.1	76.8
Idaho	18,407,997	14,235,668	13,389,471	1,776,136	82.4	94.1
Illinois	20,777,119	15,210,356	14,622,294	2,264,501	81.3	96.1
Indiana	17,038,903	13,377,791	13,049,049	1,888,910	87.5	93.5
Iowa	24,740,170	18,156,014	17,990,549	2,517,239	82.7	90.9
Kansas	29,680,192	23,187,946	21,041,367	3,571,443	82.4	90.7
Kentucky	14,971,402	11,941,291	11,519,571	1,557,190	86.0	96.5
Louisiana	35,197,837	27,598,594	24,500,346	2,590,479	77.0	88.9
Maine	14,241,416	11,982,750	10,215,739	1,182,495	80.0	89.3
Maryland	3,986,826	2,337,538	2,091,700	295,107	59.9	89.5
Massachusetts	1,783,452	1,502,340	1,324,014	178,074	84.2	85.8
Michigan	18,430,674	12,969,335	12,351,349	1,913,557	77.4	95.2
Minnesota	28,254,335	18,984,408	18,588,026	3,181,469	77.0	98.2
Mississippi	47,375,248	37,520,423	35,434,159	7,094,634	78.4	89.1
Missouri	36,656,222	27,071,028	26,457,841	4,031,532	85.2	97.7
Montana	24,941,696	17,790,396	15,462,256	2,566,713	72.0	87.1
Nebraska	27,409,436	21,688,920	19,688,806	3,626,297	85.5	91.3
Nevada	1,685,553	1,435,546	1,168,774	134,128	80.9	81.4
New Hampshire	2,747,006	1,898,240	1,622,254	307,088	70.2	88.2
New Jersey	3,851,820	2,689,746	2,067,426	325,060	60.5	74.6
New Mexico	10,243,318	6,988,079	6,188,782	844,711	68.7	88.6
New York	15,572,343	9,261,505	8,349,020	1,466,723	63.0	90.1
North Carolina	37,743,789	30,284,087	28,000,020	2,237,472	80.1	92.5
North Dakota	19,600,959	15,196,891	13,601,127	2,507,756	82.2	89.5
Ohio	17,969,829	14,350,679	13,313,959	2,207,154	86.3	94.2
Oklahoma	55,803,083	38,944,281	36,113,690	4,714,927	76.8	92.4
Oregon	11,958,487	9,822,873	9,076,990	1,143,183	85.6	92.4
Pennsylvania	12,007,559	6,631,278	6,356,171	1,145,495	62.5	95.9
Rhode Island	444,165	340,619	295,287	51,519	78.1	86.6
South Carolina	22,764,014	17,250,668	13,642,983	2,105,277	69.2	79.1
South Dakota	29,889,176	22,468,323	18,847,321	3,994,217	76.4	83.8
Tennessee	13,122,765	10,211,077	9,905,530	1,027,188	83.3	97.0
Texas	91,174,765	68,153,866	63,284,837	6,500,818	76.5	92.9
Utah	10,698,482	7,988,612	7,450,072	1,248,206	81.3	93.3
Vermont	3,038,802	2,204,408	2,134,480	332,716	81.2	96.8
Virginia	10,425,230	9,090,295	8,028,601	969,594	86.3	88.3
Washington	14,174,660	13,304,202	11,642,595	1,517,676	89.2	97.5
West Virginia	9,055,988	5,466,932	4,975,348	1,098,608	66.6	91.0
Wisconsin	24,077,356	16,307,412	16,819,576	2,404,431	79.8	105.1
Wyoming	19,765,213	14,743,055	13,274,712	2,247,900	78.5	90.0
Alaska	334,710	64,647	56,441	47,019	30.9	87.3
Hawaii	500,393	323,445	310,998	35,885	69.3	94.2
Puerto Rico	5,299,070	3,295,828	3,071,612	265,895	62.9	92.2
Virgin Islands	120,286	69,219	59,612	12,221	59.7	86.1

1/ All Rural Rehabilitation Loans to individuals and groups, including amounts appropriated for Water Facilities in arid and semi-arid areas under Pope-Jones Act; does not include Corporation Trust Funds.

2/ Includes \$11,066,133 non-cash advances covering sale of project units.

3/ Includes \$1,574,583 unapplied collections.

4/ Includes \$174,994 unapplied collections.

1/ All Rural Rehabilitation Loans to individuals and groups, including amounts appropriated for Water Facilities in arid and semi-arid areas under Pope-Jones Act; does not include Corporation Trust Funds.
2/ Includes \$11,066,133 non-cash advances covering sales of project units.
3/ Includes \$1,574,583 unapplied collections.
4/ Includes \$174,954 unapplied collections.

UNITED STATES DEPARTMENT OF AGRICULTURE
FARM SECURITY ADMINISTRATION

Rural Rehabilitation Loans by Fiscal Year 1/

Table XVI

State and Territory (1)	Fiscal Year 1938 (2)	Fiscal Year 1939 (3)	Fiscal Year 1940 (4)	Fiscal Year 1941 (5)	Fiscal Year 1942 (6)	Fiscal Year 1943 (7)	Fiscal Year 1944 (8)	Fiscal Year 1945 (9)	Fiscal Year 1946 (10)	Fiscal Year 1947 (11)	Cumulative as of June 30, 1946 (12)
U. S. TOTALS	\$ 151,463,595	\$ 70,191,639	\$ 119,007,901	\$ 97,737,748	\$ 117,916,143	\$ 122,741,160	\$ 96,392,521	\$ 66,625,039	\$ 66,795,824	\$ 82,463,908	\$ 990,962,548
Alabama	5,779,046	2,766,099	7,774,686	4,493,141	8,137,825	5,609,907	5,113,508	1,502,396	1,483,567	1,683,219	44,345,294
Arizona	802,633	390,334	459,119	396,517	502,135	245,529	245,529	158,968	196,503	304,433	3,890,686
Arkansas	5,943,716	3,065,810	6,994,466	5,667,953	5,696,983	5,275,558	5,211,407	3,005,732	2,273,938	2,534,084	42,767,647
California	3,844,990	1,387,135	2,740,949	1,229,498	2,036,100	1,792,468	1,306,268	802,433	853,891	1,360,357	16,355,268
Colorado	5,080,247	2,817,026	3,578,535	2,814,878	2,320,876	3,686,222	2,207,287	1,486,640	1,557,287	1,680,178	27,149,664
Connecticut	229,797	71,652	187,432	147,526	115,598	157,408	92,777	58,124	67,893	66,727	1,194,934
Delaware	2,678,771	1,688	25,250	76,678	84,547	881,076	95,221	91,888	95,221	157,316	696,605
Florida	1,359,046	1,776,133	935,871	935,871	1,787,115	1,881,076	1,224,579	593,527	555,066	555,066	13,124,883
Georgia	5,360,909	2,182,257	6,601,416	3,903,313	6,250,635	3,668,228	4,888,485	2,259,084	2,054,952	1,817,078	41,116,317
Idaho	2,069,942	1,253,187	2,318,105	2,272,408	2,174,440	2,101,185	1,475,116	950,952	1,314,687	2,271,769	18,181,851
Illinois	3,136,819	1,461,028	2,729,764	1,979,773	2,198,619	1,513,094	2,246,975	1,753,085	1,728,510	2,029,454	20,777,119
Indiana	2,297,792	1,563,967	2,380,844	1,658,145	2,675,948	1,552,960	1,096,009	1,176,981	1,385,949	1,473,090	17,098,903
Iowa	2,915,271	1,720,595	3,152,017	1,870,182	2,544,955	1,842,273	2,906,515	2,484,769	2,499,003	2,817,694	24,740,170
Kansas	6,077,956	2,509,069	3,252,766	2,852,556	3,149,575	3,403,710	2,618,702	1,796,816	1,457,677	2,504,498	29,565,237
Kentucky	2,155,531	742,416	1,065,181	1,978,998	2,110,125	1,745,107	1,431,551	1,013,935	1,118,275	1,208,575	14,545,294
Louisiana	4,218,739	2,667,467	3,759,446	2,945,692	4,841,628	5,641,817	3,782,532	2,603,566	2,084,578	2,226,750	34,372,075
Maine	2,204,934	1,167,719	1,727,596	2,165,048	1,451,629	1,574,169	822,265	642,814	1,249,379	1,227,863	14,241,416
Maryland	202,454	130,223	241,234	403,522	302,484	512,824	507,151	512,407	468,790	706,193	3,986,886
Massachusetts	77,831	308,412	203,589	188,901	144,687	206,714	144,176	112,961	163,493	178,688	1,783,452
Michigan	2,646,695	974,409	1,858,335	2,094,083	2,487,857	2,447,305	1,017,292	1,176,752	1,143,666	2,604,280	18,430,674
Minnesota	4,585,924	1,480,924	2,362,948	2,553,174	3,493,386	4,167,942	2,338,308	2,536,705	2,306,914	2,429,292	28,954,335
Mississippi	5,247,254	3,677,362	5,797,264	4,720,487	7,372,058	6,149,590	5,065,306	3,528,461	2,869,584	2,634,771	47,062,117
Missouri	5,385,790	3,325,995	4,665,795	3,424,441	5,314,048	3,609,112	3,066,650	2,269,696	2,293,646	2,825,267	35,921,290
Montana	2,265,488	2,851,942	4,263,230	2,559,202	1,877,546	3,430,874	1,828,288	1,393,116	1,337,394	2,005,252	25,592,552
Nebraska	5,808,256	2,796,047	3,711,772	2,613,832	2,497,831	2,892,550	2,143,680	1,388,625	1,457,667	1,597,849	27,250,047
Nevada	341,932	131,321	89,781	89,781	139,931	393,518	81,129	105,601	65,424	129,464	1,642,434
New Hampshire	596,594	182,539	273,685	324,320	213,785	407,438	195,210	223,697	184,348	2,747,006	2,747,006
New Jersey	258,376	258,376	432,032	432,032	282,323	407,674	289,641	297,628	350,193	924,381	3,851,880
New Mexico	2,389,410	494,061	513,162	562,332	875,933	1,206,600	545,080	984,821	1,116,778	9,818,007	9,818,007
New York	1,831,906	783,347	1,327,317	2,051,262	1,279,784	1,656,798	1,283,090	1,847,581	1,475,322	2,020,556	15,556,943
North Carolina	3,950,993	2,161,708	3,049,443	2,896,215	3,837,598	4,884,139	4,081,807	3,845,606	3,959,912	4,598,902	37,206,323
North Dakota	1,606,922	1,606,922	2,019,889	1,919,059	1,654,641	1,606,332	1,191,956	930,280	1,054,908	1,344,919	18,973,643
Ohio	2,658,556	1,712,409	2,752,644	1,860,795	2,646,567	1,749,656	1,282,152	1,190,734	892,658	893,055	17,409,184
Oklahoma	6,253,575	2,829,411	5,652,957	5,652,957	6,699,459	6,242,827	6,151,865	4,058,686	4,896,950	7,296,371	55,007,183
Oregon	1,457,687	1,219,689	1,467,916	1,124,865	1,175,200	1,691,288	974,611	509,407	688,286	931,388	11,240,555
Pennsylvania	1,586,293	354,965	791,770	1,437,212	1,073,584	1,611,174	1,492,687	1,245,137	952,244	1,498,956	12,004,122
Rhode Island	131,124	28,477	48,291	48,291	23,175	49,756	40,773	31,207	31,570	41,495	144,165
South Carolina	4,012,432	1,600,657	3,180,373	1,227,045	2,794,326	3,157,182	2,592,536	1,313,265	918,772	1,393,041	22,149,607
South Dakota	2,675,144	660,237	3,798,959	3,146,570	3,069,206	3,404,869	2,461,925	1,830,564	1,444,950	2,079,873	29,640,646
Tennessee	2,244,123	660,237	1,272,047	1,551,890	1,539,206	1,682,408	1,298,402	816,636	1,019,056	758,841	12,843,146
Texas	14,071,733	4,986,814	8,410,154	8,503,554	9,344,526	12,623,468	10,568,751	6,070,080	6,946,608	8,165,541	89,663,429
Utah	1,057,107	1,057,107	1,179,047	868,828	895,190	590,265	590,400	590,400	666,648	954,645	10,322,485
Vermont	96,135	96,135	245,234	399,135	224,960	422,653	408,704	293,535	172,689	342,057	3,058,802
Virginia	2,214,571	608,822	808,760	1,332,830	1,488,149	1,212,276	991,155	679,831	586,651	452,418	10,551,683
Washington	2,446,662	1,502,851	1,806,204	1,322,775	1,577,263	2,042,170	1,350,472	793,451	732,340	705,870	14,365,358
West Virginia	3,153,878	587,937	1,467,412	1,164,760	881,157	604,897	518,076	270,149	236,964	150,818	9,095,998
Wisconsin	4,069,449	1,286,507	2,387,718	2,043,575	2,554,635	2,861,025	1,776,600	2,124,519	2,214,741	2,655,987	24,077,556
Wyoming	2,059,234	1,544,181	3,141,118	2,262,271	1,905,425	2,858,122	1,794,321	1,084,055	1,282,952	1,710,121	19,619,840
Alaska	0	0	0	204,000	0	6,000	36,210	34,900	20,300	33,300	334,710
Hawaii	0	1,100	32,240	39,270	102,002	58,185	66,491	52,361	75,487	73,257	500,293
Puerto Rico	0	0	0	21,790	135,285	787,223	1,073,751	895,614	1,041,011	1,344,356	5,299,070
Virgin Islands	0	0	15,574	33,557	10,370	13,382	17,405	13,816	4,088	11,894	120,286

1/ Includes Rehabilitation loan obligations to all individuals and groups, Corporation trust funds, tenant purchases and flood and windstorm loans are not included. Does not include \$2,961,135 obligations under the appropriation, "Water Facilities, Arid and Semi-Arid Areas", nor \$15,289,305 representing non-cash advances.

UNITED STATES DEPARTMENT OF AGRICULTURE
FARM SECURITY ADMINISTRATION

Rural Rehabilitation Loans to Individuals

Table XVII

Cumulative through June 30, 1946

Fiscal year 1945

Fiscal year 1946

Supplemental

Original

Supplemental

Original

Supplemental

Average amount

State and Territory	Original			Supplemental			Original			Supplemental			Original			Supplemental		
	Number	Average amount		Number	Average amount		Number	Average amount		Number	Average amount		Number	Average amount		Number	Average amount	
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)		
U. S. TOTAL	22,901	1,010	137,763	316	24,923	1,086	102,855	386	33,555	1,323	82,095	163	1,038,428	1490	1,273,537	231		
Alabama	448	1489	9,271	138	608	575	6,768	168	589	623	6,150	214	44,849	311	171,659	159		
Arizona	13	1,116	136	720	13	1,737	105	911	98	1,577	157	954	3,095	618	3,053	529		
Arkansas	821	665	10,865	229	739	651	6,944	258	1,281	766	4,752	326	54,581	361	162,509	139		
California	304	1,259	516	767	395	1,503	1,455	681	1,491	1,796	1,099	1,099	10,976	900	11,847	555		
Colorado	337	1,377	1,903	537	395	1,581	1,161	681	1,415	1,933	1,001	819	26,910	478	33,323	411		
Connecticut	10	1,696	60	686	7	1,752	149	1,135	28	1,348	34	892	593	918	681	929		
Delaware	12	1,161	85	507	30	1,220	94	606	55	1,765	75	803	15,555	760	601	163		
Florida	289	368	2,032	236	225	1,471	1,479	290	236	1,534	1,154	351	15,555	760	33,195	166		
Georgia	185	358	10,558	192	685	1,332	7,132	532	509	1,719	5,599	261	16,099	351	140,772	178		
Idaho	357	1,358	681	666	594	1,631	860	781	782	1,788	816	1,071	10,218	1,052	14,780	478		
Illinois	551	1,679	1,795	1,611	632	1,770	1,040	597	744	1,908	973	627	17,398	790	19,235	328		
Indiana	355	1,586	1,183	519	536	1,561	897	610	604	1,644	732	658	17,540	619	13,555	355		
Iowa	818	1,773	1,787	579	859	1,791	1,351	631	1,033	1,953	1,235	648	19,621	811	19,110	378		
Kansas	667	1,111	2,718	361	471	1,294	1,675	1,492	1,079	1,660	2,120	331	31,771	1,408	68,134	208		
Kentucky	515	1,417	2,859	274	915	1,421	2,381	284	1,027	1,494	2,120	331	36,260	235	28,771	210		
Louisiana	371	747	8,501	273	511	782	5,593	301	710	878	4,433	361	11,619	276	92,590	227		
Maine	182	1,301	568	690	174	1,180	850	228	264	1,555	627	1,351	4,846	859	14,015	718		
Maryland	189	1,170	529	551	160	1,395	1,469	517	239	1,506	366	699	2,856	819	3,332	481		
Massachusetts	111	1,930	122	593	41	1,069	740	801	96	1,665	96	771	22,660	699	1,355	639		
Michigan	509	1,137	1,078	555	511	1,268	780	635	1,182	1,530	1,028	771	22,660	595	11,275	495		
Minnesota	1,063	1,689	1,350	513	908	1,841	1,089	583	976	1,843	865	727	24,840	886	15,632	375		
Mississippi	602	1,077	13,735	233	827	1,681	9,293	248	1,150	710	6,001	303	52,542	324	16,976	171		
Missouri	635	1,017	1,322	403	861	1,073	2,198	510	1,112	1,371	2,272	554	39,082	528	51,031	247		
Montana	285	1,560	693	693	271	1,686	1,185	738	1,483	2,086	1,225	812	11,676	581	20,236	527		
Nebraska	562	1,370	1,328	1,466	411	1,716	1,394	544	731	1,938	890	637	27,101	581	55,208	201		
Nevada	40	1,131	67	901	12	1,569	148	971	44	1,583	54	1,108	1,352	620	974	546		
New Hampshire	42	1,582	204	775	14	1,775	153	694	16	1,538	96	1,583	1,832	711	2,369	561		
New Jersey	69	1,115	292	756	286	1,412	282	858	168	1,684	247	978	2,713	782	2,713	649		
New Mexico	172	1,123	809	131	286	1,379	953	619	361	1,587	713	732	19,499	257	15,934	289		
New York	597	1,653	1,425	604	1,418	1,673	1,229	631	650	1,966	1,027	723	9,549	597	11,494	503		
North Carolina	1,026	1,494	10,271	325	1,624	1,511	8,227	372	2,216	1,630	7,134	1,05	33,833	393	74,270	338		
North Dakota	145	1,178	597	568	375	1,516	787	592	1,171	1,829	1,434	1,465	19,844	562	16,879	182		
Ohio	1,445	1,375	9,777	478	1,946	1,240	717	556	547	1,372	1,489	686	19,844	562	16,879	309		
Oklahoma	1,576	968	9,777	693	1,401	1,235	6,118	750	3,107	1,518	4,421	583	15,821	651	116,523	315		
Oregon	196	1,095	1,428	428	280	1,223	1,456	750	1,407	1,397	376	965	7,869	899	8,553	167		
Pennsylvania	1,488	1,240	1,149	556	1,200	1,294	710	612	622	1,649	644	735	9,210	804	8,726	132		
Rhode Island	6	1,113	21	158	11	1,186	20	761	14	1,682	22	816	314	877	269	627		
South Carolina	230	1,455	6,336	191	264	1,510	3,711	211	1,499	533	4,109	274	23,069	341	74,080	183		
South Dakota	618	1,508	1,557	518	477	1,795	905	650	784	2,040	631	761	12,225	294	60,787	192		
Tennessee	370	540	2,544	213	715	600	2,453	241	603	1,663	1,295	277	20,913	294	34,220	155		
Texas	1,904	965	13,277	319	1,943	1,281	9,570	1,466	2,774	1,569	6,772	565	89,254	1,412	239,630	211		
Utah	124	1,027	618	606	155	1,199	620	765	283	1,627	587	842	9,977	525	14,203	182		
Vermont	56	1,717	230	590	230	1,606	1,62	180	80	2,016	120	670	2,912	964	2,912	222		
Virginia	224	1,491	1,740	325	316	1,389	1,557	296	241	1,481	896	355	23,716	216	27,146	222		
Washington	275	1,350	1,461	865	208	1,618	1,434	501	234	1,752	290	1,018	7,862	1,111	7,522	756		
West Virginia	152	528	695	273	155	1,472	744	220	117	593	287	317	18,453	230	9,268	232		
Wisconsin	899	1,514	1,011	605	917	1,625	1,177	615	1,095	1,787	1,045	794	22,138	562	15,328	372		
Wyoming	156	1,676	1,063	773	198	1,806	1,066	868	364	2,030	1,017	954	8,066	1,145	19,161	556		
Alaska	20	1,695	1	1,000	14	1,450	0	0	1	1,590	18	1,590	75	1,709	2	1,256		
Hawaii	39	1,112	14	611	36	1,263	25	1,057	29	1,766	18	1,224	15,161	1,015	200	812		
Puerto Rico	2,254	159	3,844	139	2,115	183	4,067	158	1,957	228	4,671	193	15,161	169	15,861	171		
Virgin Islands	9	316	92	119	10	170	31	77	25	233	11	118	470	136	500	77		

Standard and non-standard loans to individuals. Loans from state rural rehabilitation corporation trust funds and Water Facilities loans from funds appropriated under the Pops-Jones Act not included. Cumulative columns include 3,963 original and 1,060 supplemental Water Facilities loans obligated from Loans, Grants and Rural Rehabilitation funds.

UNITED STATES DEPARTMENT OF AGRICULTURE

TABLE XVIII

EMERGENCY CROP AND FEED, AND DROUGHT RELIEF LOANS - NUMBER AND APPROVED AMOUNT OF LOANS MADE, COLLECTED AND ADJUSTED THROUGH JUNE 30, 1946, AND BALANCES OUTSTANDING JUNE 30, 1946 BY LOAN YEARS

	Loans made		Amount collected (principal)	Percent collected	Net principal adjusted: under Public Law 518		Balance outstanding June 30, 1946	
	Number	Amount			Number	Amount	Number	Amount
Emergency crop loans:								
1936 and prior.....	r/2,772,569	r/\$308,557,596	\$234,356,808	76.0	74,583	\$3,733,640	686,317	\$70,467,148
1937-1942.....	1,012,126	124,779,562	109,641,212	87.9	6,764	337,987	150,444	14,800,363
Crop production and harvesting loans 1943	116,609	18,697,086	17,844,247	95.4	140	6,487	8,099	846,352
Crop production and harvesting loans 1944	98,512	18,439,761	17,509,417	95.0	44	3,327	7,739	927,017
Crop production and harvesting loans 1945	r/80,109	r/16,465,525	13,964,180	84.8	11	1,033	14,889	2,500,312
Crop production and harvesting loans 1946	75,773	16,260,765	462,256	2.8	-	-	74,383	15,798,509
Total.....	4,155,698	503,200,295	393,778,120	78.3	81,542	4,082,474	941,871	105,339,701
Drought loans, 1934-35..	300,614	72,008,540	38,816,997	53.9	8,008	1,303,048	152,450	31,888,495
Orchard rehabilitation loans, 1942.....	13	17,355	12,240	70.5	-	-	6	5,115
Grand total.....	4,456,325	\$575,226,190	\$432,607,357	75.2	89,550	\$5,385,522	1,094,327	\$137,233,311

r/ Revised.

Table X/X Grants to Individuals and Groups by Type of Grant
During the 1946 Fiscal Year 1/

State	Farm and home operations			Sanitation			Total			Grants to health groups		
(1)	Number (2)	Amount (3)		Number (4)	Amount (5)		Number (6)	Amount (7)		Number (8)	Amount (9)	
<u>U. S. TOTAL</u>	<u>2</u>	<u>\$ 560</u>		<u>242</u>	<u>\$ 25,000</u>		<u>251</u>	<u>\$ 25,560</u>		<u>2</u>	<u>\$ 223,895</u>	
Arkansas	0	0		0	0		0	0		1	29,482	
Colorado	0	0		0	0		0	0		1	10,000	
Florida	1	170		0	0		1	170		0	0	
Georgia	0	0		0	0		0	0		1	11,525	
Minnesota	1	390		0	0		1	390		0	0	
Mississippi	0	0		0	0		0	0		1	58,702	
New Mexico	0	0		0	0		0	0		2	66,360	
Oregon	0	0		0	0		0	0		1	5,100	
Texas	0	0		0	0		0	0		2	42,716	
Puerto Rico	0	0		128	11,872		128	11,872		0	0	
Virgin Islands	0	0		121	13,128		121	13,128		0	0	

1/ Does not include Flood and Windstorm Restoration Grants.

UNITED STATES DEPARTMENT OF AGRICULTURE
FARM SECURITY ADMINISTRATION

Table 7- Report of Project Liquidation as of June 30, 1946

[illegible]

PROJECT NAME, COUNTY, and STATE	FARM AND SUBSISTENCE UNITS										N O N - F A R M U N I T S										Total Acreage
	Sold					Unsold					Transferred					Total					
	No.	Acre	No.	Acre	No.	Acre	No.	Acre	No.	Acre	No.	Acre	No.	Acre	No.	Acre	No.	Acre			
North Carolina																					
Pembroke Farms, Robeson	92	7,452	1	78	93	7,530	36	3,162	2	1,755	38	4,917	33							7,530	
Pembroke Homesteads, Pender	62	4,322	3	185	65	4,507	11	2,587	4	555	3	3,505	103							9,124	
Renoise Farms and Tillery, Halifax	122	4,311	70	2,164	192	6,302	36	3,010	2	114	13	3,124	235							9,887	
Seagranger Farms, Tyrrell and Washington	226	13,030	29	1,916	275	14,946	11	7,299	1	311	209	7,610	268							19,070	
Wolf Pit Farm, Richmond	49	3,898	5	399	49	2,612	11	599	2	515	15	1,534	61							11,242	
Total	30	2,032			36	2,612							49							4,426	
North Dakota																					
Burlington Project, Ward	35	305	35	305	35	305			1	2,115	1	2,115	36							2,440	
Oklahoma																					
Oklahoma Farm Tenant Security, Garvin and 7	53	7,707	10	806	63	8,513					1	2	64							8,515	
Oregon																					
Kamali Farms, Polk and 2	99	6,405	1	77	100	6,482	1	11			1	11	101							6,493	
South Carolina																					
Allendale Farms, Allendale	114	11,153	5	216	119	11,369					1	36	120							11,405	
Ashwood Plantation, Lee and Sumter	111	10,792	1	65	112	10,857	5	188	1	171	6	568	150							11,105	
Orangeburg Farms, Calhoun and Orangeburg	90	5,655	22	2,055	80	7,760	2	239			2	312	44							8,072	
Liverton Farms, Sumter	24	1,455	5	295	29	2,415							29							1,716	
Tennessee																					
Tennessee Farm Tenant Security, Carroll and 4	120	10,525	1	106	134	11,632	2	56	1	4	1	37	138							11,699	
Texas																					
Hempstead Farms, Rockley	78	16,179			78	16,179					3	41	81							16,220	
Texas Farm Tenant Security, Collin and 15	94	10,748	13	1,265	107	12,013			3	41	1	14	108							12,027	
Virginia																					
Shenandoah Homesteads, Greene and 4	121	5,690	18	82	155	6,339			1	124	1	124	156							6,493	
Florida																					
Florida Island	105	2,232	24	124	129	2,356			13	325	13	325	142							2,681	
St. Thomas Homesteads	24	132	51	145	80	866			1	50	15	48	96							915	
Washington																					
Washington Settled Farms, Snohomish and 11	130	5,770	4	56	134	5,826							134							5,826	
Wisconsin																					
Washington and Oneida Project, Langlade and Oneida																					
SUB TOTAL	5,448	43,219	630	39,414	55	3,567	6,103	47,226	390	56,224	186	71,591	69	2,879	581	139,934	31	4,159	6,684	605,220	

ALABAMA

Alabama
Cotton Farm, Coffee and 1
West Central Alabama Farms, Tuscaloosa

Alabama
Cotton Farm, Coffee and 1
West Central Alabama Farms, Tuscaloosa

Alabama
Cotton Farm, Coffee and 1
West Central Alabama Farms, Tuscaloosa

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Cotton Farm, Coffee and 1
West Central Alabama Farms, Tuscaloosa

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Cotton Farm, Coffee and 1
West Central Alabama Farms, Tuscaloosa

Alabama
Cotton Farm, Coffee and 1
West Central Alabama Farms, Tuscaloosa

[illegible]

PROJECT NAME, COUNTY, and STATE	FARM AND SUBSISTENCE UNITS										N O N - F A R M U N I T S										Total Units	Total Acres
	No.	Sold Acres	Unsold No.	Unsold Acres	Transferred No.	Transferred Acres	Total No.	Total Acres	Sold No.	Sold Acres	Unsold No.	Unsold Acres	Transferred No.	Transferred Acres	Total No.	Total Acres	Total No.	Total Acres	Total No.	Total Acres		
Tennessee Goodlettsville Farms, Davidson	1	176					1	176													1	176
Texas Tulsa Farms, Franklin	32	4,218					32	4,218													33	4,253
Wichita Falls, Sherman	19	2,732					19	2,732													19	2,732
Media Colony, Idmonson																					2	1,375
Neogochos Farms, Neogochos	80	9,687					80	9,687	1	531											81	2,561
Sabine Farms, Harrison and Panola	28	3,958					28	4,982	1	20											29	9,736
San Houston Farms, Harris	90	5,195					90	2,495	1	22											91	4,981
Shotton Valley Farms, Wichita	59	2,642					59	2,642	2	4											61	7,422
Woodlake Community, Trinity									6	4,780											66	
Utah Sentry Valley Farms, Garfield and 5	18	1,895					18	1,895													18	1,895
Midaseo Reestablishment Project, Garfield and 3	15	1,688					15	1,688													15	1,688
Florida Orlando	1	58					1	58	2	123											3	161
Washington Spokane Farms, Spokane and 2	44	2,767					44	2,767													44	2,767
Wisconsin Hickory Hill Farms, Clark and 3	72	6,982					72	6,982													72	6,982
Deer Creek Farms, Clark and 4	24	2,065					24	2,065													24	2,065
Lakewood-Grandon Farms, Bayfield and 4	6	33					6	33													6	33
Monroe County Retirement Homesteads, Monroe	9	13					9	18	1	3											10	21
Northern Pine Retirement Homesteads, Forest and Langlade									1	68											1	68
West Bend Farms, Washington	7	360					7	360													7	360
Wisconsin Scatter Farms, Monroe and 4																						
Widow Corporation, Forest																						
Combined with Northern Pine Retirement Homesteads																						
SUB TOTAL	2,515	274,129	64	5,336	2,579	279,465	234	52,982	29	5,000	257	50,032	2,636	337,497								
U. S. GRAND TOTAL	7,933	795,644	650	39,444	119	8,903	9,682	752,991	544	109,476	186	71,591	88	7,959	898	139,286	9,580	943,017				

Table 12 Report of Project Operating Cost and Income
as of June 30, 1946

[illegible]

PROJECT NAME, COUNTY, and STATE	Operating Expenses Cumulative as of December 31, 1945				Operating Expenses December 31, 1945 to June 30, 1946				Total Cumulative Operating Expenses Cumulative to December 31, 1945 to June 30, 1946 to June 30, 1946			
	Management		Maintenance, etc.		Management		Maintenance, etc.		Total		Total	
North Carolina												
North Carolina Farm Tenant Security, Wayne and L.	\$ 37,444		\$ 34,470		\$ 71,884				\$ 71,884		\$ 108,206	
Pembroke Farms, Robeson	59,233		52,973		112,206				112,206		80,650	
Panthera Homesteads, Camden	188,207		512,201		503,408				503,408		117,759	
Panthera Farms and Plantations, Halifax	1,000		1,000		2,000				2,000		295,225	
Swamp Farm, and Miller, Halifax	1,000		1,000		2,000				2,000		21,440	
Swamp Farm, and Miller, Halifax	1,000		1,000		2,000				2,000		21,440	
Wolf Pit Farms, Richmond	20,470		20,470		40,940				40,940		1,082	
North Dakota												
North Dakota Farm Tenant Security, Ward	27,844		34,740		59,684				59,684		26,190	
Oklahoma												
Oklahoma Farm Tenant Security, Garvin and 7	27,472		28,092		55,564				55,564		1,378	
Oregon												
Yamhill Farms, Polk and 2	78,663		140,466		219,149				219,149		128,125	
South Carolina												
Yamhill Farms, Allendale	52,004		27,395		79,399				79,399		51,305	
Almond Plantations, Lee and Sumter	134,622		116,028		250,650				250,650		127,234	
Orangeburg Farms, Calhoun and Orangeburg	50,324		35,488		85,812				85,812		1,381	
Tiverton Farms, Sumter	10,541		9,465		20,006				20,006		106	
Tennessee												
Tennessee Farm Tenant Security, Carroll and 4	66,887		82,495		149,382				149,382		135,799	
Iowa												
Rockville Farms, Hookley	34,865		52,843		87,708				87,708		147,738	
Texas Farm Tenant Security, Collin and 15	89,465		17,443		106,908				106,908		136,466	
Virginia												
Shenandoah Homesteads, Greene and 4	103,476		75,740		179,216				179,216		47,358	
Virgin Islands												
St. Croix Homesteads	6		16,878		16,884				16,884		634	
Washington												
Washington Settled Farms, Snohomish and 14	1,199		27,742		28,941				28,941		329	
Wisconsin												
Langlade and Oneida Projects, Langlade and Oneida	127		1,018		1,145				1,145		232	
SUB TOTAL	\$3,407,320		\$4,720,300		\$8,127,620				\$12,848		\$21,209	
LIQUIDATED												
Alabama												
Coffee Farms, Coffee and 4	\$ 178,594		\$ 155,882		\$ 334,476				\$ 334,476		\$ 233,775	
West Central Alabama Farms, Tuscaloosa	37		21		58				58		40	
Arkansas												
Arkansas Farms, DeWitt	1,660		25,595		25,244				25,584		133,719	
Arkansas Farms, DeWitt	61,330		71,700		133,030				133,207		40,532	
Arkansas Farms, DeWitt	17,038		11,750		28,788				28,788		154,790	
Arkansas Farms, DeWitt	28,127		40,581		68,708				68,808		2,909	
California												
Thomson Settlement Project, Mendocino and 1	22		115		137				137		2,366	
Colorado												
Colorado Settled Farms, Mesa	6		311		317				317		36	
Las Animas Farms, Las Animas											300	
Florida												
Jacksonville Homesteads, Duval												
Georgia												
Trinity Farm, Putnam	19,216		12,271		31,487				31,487		35,338	
Georgia Settled Farms, Randolph and Polk	57		1,662		1,719				1,719		2,730	
Georgia Settled Farms, Randolph and Polk	57,469		68,265		125,734				125,734		2,960	
Illinois												
Illinois Homesteads, Franklin	12,276		12,276		24,552				24,552		2,076	
Indiana												
Rehabilitation Demonstration Farms, Ripley	138		2		140				140		122	
Kansas												
Kansas Settled Farms, Jackson and 3	105		2,553		2,658				2,658		4,755	
Northeast Kansas Farms, Jackson and 3	17,937		16,989		34,926				34,926		13,768	

PROJECT NAME, COUNTY, and STATE	Operating Expenses Cumulative as of December 31, 1945				Operating Expenses December 31, 1945		Total Cumulative Operating Expenses to June 30, 1946		Income Cumulative to December 31, 1945 + to June 30, 1946 + to June 30, 1946	
	Management	Maintenance, etc.	Operations	Total	Management	Maintenance, etc.	Total	Management	Maintenance, etc.	Total
	1	2	3	4	5	6	7	8	9	10
Kentucky Duff-Gibbs Farms, Christian and Trigg Subsidiary Forest Community, Laurel	\$ 70,808 14,622	\$ 72,537 15,342	\$ 143,395 66,114	\$ 143,395 66,114	\$ 307	\$ 409	\$ 796	\$ 143,395 66,114	\$ 2,739 1,484	\$ 149,692 34,115
Louisiana Terrebonne, Terrebonne	41,903	32,036	73,939	73,939						
Maine State of Maine Farms, Androscoggin and 11	37,711	60,001	97,712	97,712						
Michigan An Shilo Area, Oseage Chaboyran Farms, Chaboyran Corporation Farms and Real Estate, Antrim and 13 Johannesburg Farms, Oseage and 5 Pocahontas, Iron and 8 Saginaw Valley, Saginaw Southern Michigan Farms, Ionia and 9	639 1,305 21,359 50,909 39,157	544 324 11,679 11,405 59,707	1,183 324 3,901 33,299 14,105 99,104	1,183 324 3,901 33,299 14,105 99,104						
Minnesota Albert Lea Emmentons, Freeborn Central Minnesota Farms, Pope and 6 Ethel Allen, Itasca Farms, Becker and 8 Hudson River Farms, Marshall and 3 Thad River Falls Farms, Marshall and 3	59,614 165 63,053	91,045 14 102,136	665 151,573 11 165,169	665 151,573 11 165,169	94		94			
Mississippi Mississippi Rehabilitation Farms, Lawrence	7	120	127	127						
Missouri La Roche Farms, New Madrid Oseage Farms, Pettis Rehabilitation Demonstration Farms, Boone and 19	50,344 21,416 21,416	98,098 79,048 13,205	149,242 145,076 10,668	149,242 145,076 10,668	194		194			
Nebraska Falls City Farms, Kearney Grand Island Farms, Hall Kearney Farms, Kearney Leop City Farms, Kearney Republican Valley Farms, Kearney Saginaw Valley Farms, Kearney South River Farms, Kearney Two Rivers, Douglas	5,089 2,478 3,414 3,414 17 24,568 37,032	7,876 9,293 8,342 23,240 16,095 30,077 102,682	12,965 11,771 8,342 23,240 16,095 30,077 102,682	12,965 11,771 8,342 23,240 16,095 30,077 102,682						
New Mexico Donna Ann Farms, Dona Ana New Mexico Farms, De Rosa Silver City Farms, Grant	35 28,006 8	3,994 52,587 1,395	46,029 81,373 1,403	46,029 81,373 1,403	5		5			
New York Pinger Lake Farms, Cayuga and 4 New York Valley Farms, Allegany and 8 North Carolina North Carolina Sontford Farms, Allegany and 12	36,164 26,908	56,910 14,731	93,371 71,289	93,371 71,289	5		5			
North Dakota North Dakota Sontford Farms, McLean and 3 Red River Valley Farms, Cass and 11 Ohio Salto Farms, Ross and 3	22,105 60,197 92,395	98,612 106,610 14,090	120,797 166,807 236,125	120,797 166,807 236,125	3		3			
Oklahoma Oklahoma Farms, Oseage and 4 101 Ranch Farms, Pottawatomie and 14 Tulsa County Farms, Tulsa	67,633 14,704 1,735	49,279 15,148 280	117,212 94,152 2,015	117,212 94,152 2,015	131		131			
Pennsylvania Northampton Farms, Northampton Pennsylvania Farms, Bradford and 8 South Carolina South Carolina Farm Tenure Society, Allam and 13 South Carolina Sontford Farms, Union and 3	4,200 30,272 24,063 408	25,095 25,207 28,733 5,081	30,135 70,179 50,596 34,059	30,135 70,179 50,596 34,059						
South Dakota South Dakota Farms, Brookings and 2 Stout Farms, Brookings Stout Farms, Brookings Stout Farms, Brookings	25,122 17,917 11 11	40,084 30,964 265 265	69,916 50,911 277 277	69,916 50,911 277 277						
South Dakota Stout Farms, Brookings and 2 Stout Farms, Brookings Stout Farms, Brookings Stout Farms, Brookings	25,122 17,917 11 11	40,084 30,964 265 265	69,916 50,911 277 277	69,916 50,911 277 277						
South Dakota Stout Farms, Brookings and 2 Stout Farms, Brookings Stout Farms, Brookings Stout Farms, Brookings	25,122 17,917 11 11	40,084 30,964 265 265	69,916 50,911 277 277	69,916 50,911 277 277						
South Dakota Stout Farms, Brookings and 2 Stout Farms, Brookings Stout Farms, Brookings Stout Farms, Brookings	25,122 17,917 11 11	40,084 30,964 265 265	69,916 50,911 277 277	69,916 50,911 277 277						
South Dakota Stout Farms, Brookings and 2 Stout Farms, Brookings Stout Farms, Brookings Stout Farms, Brookings	25,122 17,917 11 11	40,084 30,964 265 265	69,916 50,911 277 277	69,916 50,911 277 277						
South Dakota Stout Farms, Brookings and 2 Stout Farms, Brookings Stout Farms, Brookings Stout Farms, Brookings	25,122 17,917 11 11	40,084 30,964 265 265	69,916 50,911 277 277	69,916 50,911 277 277						
South Dakota Stout Farms, Brookings and 2 Stout Farms, Brookings Stout Farms, Brookings Stout Farms, Brookings	25,122 17,917 11 11	40,084 30,964 265 265	69,916 50,911 277 277	69,916 50,911 277 277						
South Dakota Stout Farms, Brookings and 2 Stout Farms, Brookings Stout Farms, Brookings Stout Farms, Brookings	25,122 17,917 11 11	40,084 30,964 265 265	69,916 50,911 277 277	69,916 50,911 277 277						
South Dakota Stout Farms, Brookings and 2 Stout Farms, Brookings Stout Farms, Brookings Stout Farms, Brookings	25,122 17,917 11 11	40,084 30,964 265 265	69,916 50,911 277 277	69,916 50,911 277 277						
South Dakota Stout Farms, Brookings and 2 Stout Farms, Brookings Stout Farms, Brookings Stout Farms, Brookings	25,122 17,917 11 11	40,084 30,964 265 265	69,916 50,911 277 277	69,916 50,911 277 277						
South Dakota Stout Farms, Brookings and 2 Stout Farms, Brookings Stout Farms, Brookings Stout Farms, Brookings	25,122 17,917 11 11	40,084 30,964 265 265	69,916 50,911 277 277	69,916 50,911 277 277						
South Dakota Stout Farms, Brookings and 2 Stout Farms, Brookings Stout Farms, Brookings Stout Farms, Brookings	25,122 17,917 11 11	40,084 30,964 265 265	69,916 50,911 277 277	69,916 50,911 277 277						
South Dakota Stout Farms, Brookings and 2 Stout Farms, Brookings Stout Farms, Brookings Stout Farms, Brookings	25,122 17,917 11 11	40,084 30,964 265 265	69,916 50,911 277 277	69,916 50,911 277 277						
South Dakota Stout Farms, Brookings and 2 Stout Farms, Brookings Stout Farms, Brookings Stout Farms, Brookings	25,122 17,917 11 11	40,084 30,964 265 265	69,916 50,911 277 277	69,916 50,911 277 277						
South Dakota Stout Farms, Brookings and 2 Stout Farms, Brookings Stout Farms, Brookings Stout Farms, Brookings	25,122 17,917 11 11	40,084 30,964 265 265	69,916 50,911 277 277	69,916 50,911 277 277						
South Dakota Stout Farms, Brookings and 2 Stout Farms, Brookings Stout Farms, Brookings Stout Farms, Brookings	25,122 17,917 11 11	40,084 30,964 265 265	69,916 50,911 277 277	69,916 50,911 277 277						
South Dakota Stout Farms, Brookings and 2 Stout Farms, Brookings Stout Farms, Brookings Stout Farms, Brookings	25,122 17,917 11 11	40,084 30,964 265 265	69,916 50,911 277 277	69,916 50,911 277 277						
South Dakota Stout Farms, Brookings and 2 Stout Farms, Brookings Stout Farms, Brookings Stout Farms, Brookings	25,122 17,917 11 11	40,084 30,964 265 265	69,916 50,911 277 277	69,916 50,911 277 277						
South Dakota Stout Farms, Brookings and 2 Stout Farms, Brookings Stout Farms, Brookings Stout Farms, Brookings	25,122 17,917 11 11	40,084 30,964 265 265	69,916 50,911 277 277	69,916 50,911 277 277						
South Dakota Stout Farms, Brookings and 2 Stout Farms, Brookings Stout Farms, Brookings Stout Farms, Brookings	25,122 17,917 11 11	40,084 30,964 265 265	69,916 50,911 277 277	69,916 50,911 277 277						
South Dakota Stout Farms, Brookings and 2 Stout Farms, Brookings Stout Farms, Brookings Stout Farms, Brookings	25,122 17,917 11 11	40,084 30,964 265 265	69,916 50,911 277 277	69,916 50,911 277 277						
South Dakota Stout Farms, Brookings and 2 Stout Farms, Brookings Stout Farms, Brookings Stout Farms, Brookings	25,122 17,917 11 11	40,084 30,964 265 265	69,916 50,911 277 277	69,916 50,911 277 277						
South Dakota Stout Farms, Brookings and 2 Stout Farms, Brookings Stout Farms, Brookings Stout Farms, Brookings	25,122 17,917 11 11	40,084 30,964 265 265	69,916 50,911 277 277	69,916 50,911 277 277						
South Dakota Stout Farms, Brookings and 2 Stout Farms, Brookings Stout Farms, Brookings Stout Farms, Brookings	25,122 17,917 11 11	40,084 30,964 265 265	69,916 50,911 277 277	69,916 50,911 277 277						
South Dakota Stout Farms, Brookings and 2 Stout Farms, Brookings Stout Farms, Brookings Stout Farms, Brookings	25,122 17,917 11 11	40,084 30,964 265 265	69,916 50,911 277 277	69,916 50,911 277 277						
South Dakota Stout Farms, Brookings and 2 Stout Farms, Brookings Stout Farms, Brookings Stout Farms, Brookings	25,122 17,917 11 11	40,084 30,964 265 265	69,916 50,911 277 277	69,916 50,911 277 277						
South Dakota Stout Farms, Brookings and 2 Stout Farms, Brookings Stout Farms, Brookings Stout Farms, Brookings	25,122 17,917 11 11	40,084 30,964 265 265	69,916 50,911 277 277	69,916 50,911 277 277						
South Dakota Stout Farms, Brookings and 2 Stout Farms, Brookings Stout Farms, Brookings Stout Farms, Brookings	25,122 17,917 11 11	40,084 30,964 265 265	69,916 50,911 277 277	69,916 50,911 277 277						
South Dakota Stout Farms, Brookings and 2 Stout Farms, Brookings Stout Farms, Brookings Stout Farms, Brookings	25,122 17,917 11 11	40,084 30,964 265 265	69,916 50,911 277 277	69,916 50,911 277 277						
South Dakota Stout Farms, Brookings and 2 Stout Farms, Brookings Stout Farms, Brookings Stout Farms, Brookings	25,122 17,917 11 11	40,084 30,964 265 265	69,916 50,911 277 277	69,916 50,911 277 277						
South Dakota Stout Farms, Brookings and 2 Stout Farms, Brookings Stout Farms, Brookings Stout Farms, Brookings	25,122 17,917 11 11	40,084 30,964 265 265	69,916 50,911 277 277	69,916 50,911 277 277						
South Dakota Stout Farms, Brookings and 2 Stout Farms, Brookings Stout Farms, Brookings Stout Farms, Brookings	25,122 17,917 11 11	40,084 30,964 265 265	69,916 50,911 277 277	69,916 50,911 277 277						
South Dakota Stout Farms, Brookings and 2 Stout Farms, Brookings Stout Farms, Brookings Stout Farms, Brookings	25,122 17,917 11 11	40,084 30,964 265 265	69,916 50,911 277 277	69,916 50,911 277 277						
South Dakota Stout Farms, Brookings and 2 Stout Farms, Brookings Stout Farms, Brookings Stout Farms, Brookings	25,122 17,917 11 11	40,084 30,964 265 265	69,916 50,911 277 277	69,916 50,911 277 277						
South Dakota Stout Farms, Brookings and 2 Stout Farms, Brookings Stout Farms, Brookings Stout Farms, Brookings	25,122 17,917 11 11	40,084 30,964 265 265	69,916 50,911 277 277	69,916 50,911 277 277						
South Dakota Stout Farms, Brookings and 2 Stout Farms, Brookings Stout Farms, Brookings Stout Farms, Brookings	25,122 17,917 11 11	40,084 30,964 265 265	69,916 50,911 277 277	69,916 50,911 277 277						
South Dakota Stout Farms, Brookings and 2 Stout Farms, Brookings Stout Farms, Brookings Stout Farms, Brookings	25,122 17,917 11 11	40,084 30,964 265 265	69,916 50,911 277 277	69,916 50,911 277 277						
South Dakota Stout Farms, Brookings and 2 Stout Farms, Brookings Stout Farms, Brookings Stout Farms, Brookings	25,122 17,917 11 11	40,084 30,964 265 265	69,916 50,911 277 277	69,916 50,911 277 277						
South Dakota Stout Farms, Brookings and 2 Stout Farms, Brookings Stout Farms, Brookings Stout Farms, Brookings	25,122 17,917 11 11	40,084 30,964 265 265	69,916 50,911 277 277	69,916 50,911 277 277						
South Dakota Stout Farms, Brookings and 2 Stout Farms, Brookings Stout Farms, Brookings Stout Farms, Brookings	25,122 17,917 11 11	40,084 30,964 265 265	69,916 50,911 277 277	69,916 50,911 277 277						
South Dakota Stout Farms, Brookings and 2 Stout Farms, Brookings Stout Farms, Brookings Stout Farms, Brookings	25,122 17,917 11 11	40,084 30,964 265 265	69,916 50,911 277 277	69,916 50,911 277 277						
South Dakota Stout Farms, Brookings and 2 Stout Farms, Brookings Stout Farms, Brookings Stout Farms, Brookings	25,122 17,917 11 11	40,084 30,964 265 265	69,916 50,911 277 277	69,916 50,911 277 277						
South Dakota Stout Farms, Brookings and 2 Stout Farms, Brookings Stout Farms, Brookings Stout Farms, Brookings	25,122 17,917 11 11	40,084 30,964 265 265	69,916 50,911 277 277	69,916 50,911 277 277						
South Dakota Stout Farms, Brookings and 2 Stout Farms, Brookings Stout Farms, Brookings Stout Farms, Brookings	25,122 17,917 11 11	40,084 30,964 265 265	69,916 50,911 277 277	69,916 50,911 277 277						
South Dakota Stout Farms, Brookings and 2 Stout Farms, Brookings Stout Farms, Brookings Stout Farms, Brookings	25,122 17,917 11 11	40,084 30,964 265 265	69,916 50,911 277 277	69,916 50,911 277 277						
South Dakota Stout Farms, Brookings and 2 Stout Farms, Brookings Stout Farms, Brookings Stout Farms, Brookings	25,122 17,917 11 11	40,084 30,964 265 265	69,916 50,911 277 277	69,916 50,911 277 277						
South Dakota Stout Farms, Brookings and 2 Stout Farms, Brookings Stout Farms, Brookings Stout Farms, Brookings	25,122 17,917 11 11	40,084 30,964 265 265	69,916 50,911 277 277	69,916 50,911 277 277						
South Dakota Stout Farms, Brookings and 2 Stout Farms, Brookings Stout Farms, Brookings Stout Farms, Brookings	25,122 17,917 11 11	40,084 30,964 265 265	69,916 50,911 277 277	69,916 50,911 277 277						
South Dakota Stout Farms, Brookings and 2 Stout Farms, Brookings Stout Farms, Brookings Stout Farms, Brookings	25,122 17,917 11 11	40,084 30,964 265 265	69,916 50,911 277 277	69,916 50,911 277 277						
South Dakota Stout Farms, Brookings and 2 Stout Farms, Brookings Stout Farms, Brookings Stout Farms, Brookings	25,122 17,917 11 11	40,084 30,964 265 265	69,916 50,911 277 277	69,916 50,911 277 277						
South Dakota Stout Farms, Brookings and 2 Stout Farms, Brookings Stout Farms, Brookings Stout Farms, Brookings	25,122 17,917 11 11	40,084 30,964 265 265	69,916 50,911 277 277	69,916 50,911 277 277						
South Dakota Stout Farms, Brookings and 2 Stout Farms, Brookings Stout Farms, Brookings Stout Farms, Brookings	25,122 17,917 11 11	40,084 30,964 265 265</								

PROJECT NAME, COUNTY, and STATE	Operating Expenses Cumulative as of December 31, 1945				Operating Expenses December 31, 1945 to June 30, 1946		Total Operating Expenses to June 30, 1946		Income Cumulative to December 31, 1945 + Total Cumulative Income to June 30, 1946	
	Management	Operation	Maintenance, etc.	Total	Management	Operation	Management	Operation	Management	Operation
	\$	\$	\$	\$	\$	\$	\$	\$	\$	\$
Tennessee										
Georgetown Farms, Davidson	204	63		267						
Texas										
Parula Farms, Franklin	143,676	18,949		162,625						
Wichita Farms, Midland	2,011	8,321		10,338						
Leola Colony, Midland	136	2,970		3,106						
Neogoches Farms, Woodcreek	9,031	3,595		12,626						
Sabine Farms, Harrison and Panola	81,842	36,817		118,659						
San Houston Farms, Harris	62,542	11,409		73,951						
Wichita Valley Farms, Wichita	73,682	11,726		85,408						
Goodie Community, Trinity	100,570	65,126		165,696						
Utah										
Great Valley Farms, Garfield and 5	4,693	7,731		12,424						
Madote Resettlement Project, Garfield and 3	41	5,145		5,186						
Virginia										
Colonial Acres, Mathews and 2	15	28		43						
Washington										
Shoshone Farms, Snohomish and 2	60,330	51,160		111,490						
Wisconsin										
Central Wisconsin Farms, Clark and 3	69,177	92,167		161,344						
Dorchester Community, Forest	28,015	19,292		47,307						
Lakewood-Crandon Farms, Forest and 1	26,312	26,368		52,680						
Monroe County Retirement Homesteads, Monroe	9	1,013		1,022						
Northern Pine Retirement Forest and Langlade	77	2,594		2,671						
West Bend Farms, Washington	117	117		234						
Wisconsin Settlers Farms, Monroe and 4	10	117		127						
Wilson Corporation, Forest										
SUB TOTAL	92,078,723	92,679,643		184,758,366	\$ 1,431	\$ 1,597	\$ 1,431	\$ 1,597	\$ 1,431	\$ 1,597
U. S. GRAND TOTAL	92,078,723	92,679,643		184,758,366	\$ 1,431	\$ 1,597	\$ 1,431	\$ 1,597	\$ 1,431	\$ 1,597

1/ Includes donations consisting of contributions from borrowers and other Federal agencies in the amount of \$207,671.

2/ Differs from cumulative total reported as of December 31, 1945, in the amount of \$204,616 because of adjustments of prior years expenses reported during the last six months of the 1946 fiscal year, inventory and other adjustments.

3/ Differs from cumulative total reported as of December 31, 1945, in the amount of \$1,155 due to minor adjustments of prior fiscal years income.

Table III Report of Project Development Cost and Gain or Loss
as of June 30, 1946

PROJECT NAME, COUNTY, and STATE	Cost of Land	Cost of Development	Total Cost	Total 1/2 Interest	Firm and Subsistence Units		Units Sold		Non-Firm Units		Transferred or Conveyed		Sale of Surplus Buildings		Miscellaneous; Return of Capital, Gain or Loss	
					No.	1/2 Interest	No.	1/2 Interest	No.	1/2 Interest	No.	1/2 Interest	No.	1/2 Interest		No.
Alabama																
Tinkana Farm Tenant Security, Autauga and 17	201,423	353,560	554,983	102	91	311,555	240,390	4	8,490	2,206	1	22,354	595	250,581		
Alabama Southern Farms, Clay and 6	123,405	302,452	425,857	107	89	204,235	63,468	1	6,815	1,745	2	81,657	36,100	2,846		
Alabama Southern Farms, Dale and 1	177,445	421,866	599,311	141	23	75,795	30,914	1	800	2,037	2	31,544	3,998	30,010		
Piedmont Farms, Madison	94,131	1,391,399	1,485,530	134	127	260,595	501,811	5	442,465	57,431		49,339	733	623,042		
Arizona																
East Grande Valley Farms, Pinal	343,343	454,174	797,517	18				1	125	27*				27*		
Arkansas																
Arkansas Farm Tenant Security, Clark and 4	116,739	330,151	446,890	60	55	244,778	120,559	3	10,112	7,117	1	22,720	5,215	153,139		
Rebozo, Padria and St. Francis	241,169	371,480	612,649	63	68	291,056	36,209	3	2,551	714		10,771	2,800	10,816		
Central and Western Arkansas Valley, Conway and 8	154,982	190,775	345,757	69	87	132,412	117,082					3,435	5,135	134,128		
Clifton Farms, Clifton and Drew	130,336	243,707	374,043	82	73	233,754	11,367	3	26,218	11,395	1	8,671	275	17,321		
Clifton Farms, Clifton and Drew	130,336	243,707	374,043	82	73	233,754	11,367	3	26,218	11,395	1	8,671	275	17,321		
Deola Farms, Deola and Drew	154,540	340,480	495,020	87	66	260,201	83,241	4	4,315	11,460		25,442	700	97,698		
Kelso Farms, Deola	37,912	258	38,170	1										11,617		
Lakewood, Lee and Phillips	693,771	690,685	1,384,456	171	130	507,616	116,328	12	7,534	13,569	2	90,437	4,167	119,897		
Lomoka Farms, Lomoka	196,912	151,550	348,462	43	40	134,397	14,178				1	30,339	1,225	11,913		
Northwest Arkansas Farms, Denton and Washington	179,712	251,944	431,656	43	41	251,944	75,795					10,771	1,755	12,526		
St. Francis River Farms, Polk	386,714	1,598,314	1,985,028	352	317	670,553	44,554	4	35,000	4,041	2	91,301	19,177	71,118		
St. Francis River Farms, Polk	408,683	570,423	979,106	88	94	456,697	41,993*	2	29,483	6,293		64,689	15,350	80,043		
Colorado																
San Luis Valley Farms, Alamosa and Rio Grande	197,410	840,215	1,037,625	82	61	347,115	286,451	15	19,808	33,792	1	51,753	27,780	289,379		
Western Slope Farms, Delta, Montrose	349,342	753,110	1,102,452	86	78	580,560	489,179				1	11,655	1,595	566,018		
Florida																
Florida Southern Farms, Jefferson and 2	61,616	508,387	570,003	95	71	187,975	144,288	10	50,200	11,927*	2	116,692	1,500	117,941		
Florida Southern Farms, Jefferson and 2	100,695	255,288	355,983	70	52	184,672	113,558	2	1,100	1,162			54	115,229		
Georgia																
Georgia Farm Tenant Security, Macon	260,128	450,406	710,534	115	87	382,314	134,717	4	45,000	74,844	3	63,711	1,495	139,765		
Georgia Farm Tenant Security, Barrow and 32	343,441	665,691	1,009,132	116	105	523,312	135,399	24	47,057	13,382			846	359,121		
Greene County Project, Greene	198,656	366,080	564,736	118	57	175,725	125,399	6	30,295	26,111	2	75,511	112,402	3,822*		
Irwinville, Irwin	164,726	909,807	1,074,533	115	104	348,691	391,296						449	147,351		
Wolf Creek, Grady	26,436	204,926	231,362	21	21	50,090	125,362	2	10,420	29,755			385	134,692		
Iowa																
Boundary Farms, Boundary	321,747	479,795	801,542	41	29	182,755	208,423				5	19,412	7,460	295,883		
Iowa Scattered Farms, Ida and 16	189,965	39,620	229,585	82	81	139,191	6,273							6,273		
Iowa Scattered Farms, Davison and 6	528,691	711,715	1,240,406	104	96	604,021	534,996	5	66,033	20,13*		5,119	4,619	541,158		
Kentucky																
Christiansburg Farms, Christian and Trigg	427,671	534,423	962,094	96	89	570,301	280,083	2	4,700	11,350	6	83,714	785	295,668		
Louisiana																
Louisiana Farm Tenant Security, Caldwell and 6	235,511	377,214	612,725	108	101	439,037	120,436				1	4,519	16,593	211,958		
Poussin Farms, Madison and East Carroll	235,511	377,214	612,725	108	101	439,037	120,436				2	62,516	7,195	23,920		
Tracy Farm, Madison and East Carroll	389,272	515,773	905,045	177	155	631,228	1,417	10	52,754	6,55*		40,584	1,651	4,620*		
Minnesota																
Isle Royale Farms, Bottineau and 9	299,567	122,025	421,592	237	232	395,751	17,885	2	3,100	111*			99	17,811		
Mississippi																
Mississippi Farm Tenant Security, Hinds	62,471	235,951	298,422	74	69	226,013	11,993				1	28,162	875	11,993		
Mississippi Farm Tenant Security, Hinds	110,290	279,004	389,294	104	92	279,004	19,676	3	34,710	3,110		3,048	875	72,113		
Mississippi Farm Tenant Security, Hinds	324,999	405,512	730,511	113	109	587,073	19,676							1,756*		
Mississippi Farm Tenant Security, Hinds	792,128	985,093	1,777,221	302	276	1,432,436	31,919	16	47,120	4,601	1	42,031	86,102	1,756*		
Northwest Mississippi Farms, Ottobahn and 6	100,891	1,024,975	1,125,866	74	61	864,464	13,750				11	50,175	30,641	136,590		
Northwest Mississippi Farms, Ottobahn and 6	23,459	174,425	197,884	57	23	39,450	18,795							18,795		
Montana																
Trail Farm, Bonanza Farms, Teton and Cascade	425,677	771,892	1,200,569	114	81	432,720	38,485				1	56,011	34,965	104,452		
Miner River Farms, Minner and 2	109,415	800,698	910,113	79	73	405,465	184,312	1	156,200	64,505			156,200	104,452		
Miner River Farms, Minner and 2	311,342	1,621,547	1,932,889	150	129	1,621,547	609,349	3	3,453	44,651			20,976	680,247		
New Mexico																
San Juan Valley Farms, Santa Fe and 2	569,088	569,331	1,138,419	46	37	217,112	169,348				2	103,434	200	72	169,320	
San Juan Valley Farms, Santa Fe and 2	569,331	569,331	1,138,662	46	37	217,112	169,348									

PROJECT NAME, COUNTY, and STATE	Cost of Land	Cost of Development	Total Cost	Total Units on Project	Units Sold			Transferred or Conveyed			Sale of Surplus Buildings			Total
					Num and Substomom Units	Actual Gain	or Loss	Units	Substomom Units	Actual Gain	or Loss	Actual Gain	or Loss	
					Ho, : Sale Price : or Loss	Ho, : Sale Price : or Loss	Ho, : Sale Price : or Loss	Units	Units	Units	Units	Units	Units	
North Carolina														
North Carolina Farm Tenant Security, Wayne and L	\$ 232,158	\$ 232,158	\$ 550,324	53	92	\$ 370,079	\$ 149,344	36		\$ 157,075	\$ 96,219*	\$ 3,132	\$ 9	\$ 172,493
Parabola Farms, Robeson	314,586	297,199	613,785	103	42	286,083	70,731	36		59,842	140,570	55,993	8,077	26,901*
Parabola Homesteads, Fender	89,008	2,152,533	2,241,541	235	122	312,232	681,136	36		106,693	128,977	28,267	22,694	766,650
Roulette Farms and Tillery, Halifax	196,286	1,650,723	1,847,009	288	236	660,477	886,742	11		255,525	181,600	6,750	36,115	945,092
Seawater Farm, Tyrrell and Washington	130,522	1,559,913	1,690,435	81	49	147,695	135,782	11		43,440	9,959*	103	1,650	287,355
Sold 746 Farms, Richmond	157,396	116,934	274,330	49	30	114,745	96,779	11						145,905
North Dakota														
North Dakota Farm Tenant Security, Ward	44,871	14,182	206,053	36										
Oklahoma														
Oklahoma Farm Tenant Security, Garvin and 7	342,843	302,155	535,090	64	53	300,071	169,966		1	188	505	1,668	112,656	11,002*
Oregon														
Garrett Farm, Polk and 2	541,915	769,564	1,295,479	101	99	639,079	552,523	1			1,800	823*		552,147
South Carolina														
South Carolina Farm, Allendale	230,377	398,431	628,808	120	114	410,325	120,369		1	28,712				129,399
Adams Plantation, Sumter	207,175	1,100,770	1,307,945	150	113	517,377	833,640	5		28,418				108,379
Oraugaburg Farm, Oaaham and Oraugaburg	201,715	223,151	424,866	84	58	210,542	119,435	2		28,039				136,091
Tiverton Farm, Sumter	33,091	79,393	112,484	29	24	95,150	6,068*		2					6,068*
Tennessee														
Tennessee Farm Tenant Security, Garrett and 4	344,301	622,993	967,294	138	120	549,198	174,440	2		1,455	805	7,329		182,174
Texas														
Toperville Farm, Mobley	220,286	342,925	563,211	81	78	502,981	122,042							125,215
Texas Farm Tenant Security, Collins and 15	528,074	156,720	684,794	108	94	540,050	231,066		1	301	736	3,153		361,122
Virginia														
Shoreland Homesteads, Greene and 4	301,728	755,049	1,056,777	156	121	282,750	542,022							550,582
Virgin Islands														
St. John's Homesteads	67,942	175,906	243,848	112	105	69,710	89,249							68,249
St. Thomas Homesteads	214,500	92,285	306,785	96	24	12,203	13,397		5	36,575				13,397
Washington														
Washington Saturated Farms, Snohomish and 14	161,073	91,095	252,168	134	130	135,746	42,599							42,509
Wisconsin														
Langside and Onida Project, Langside and Onida	21,280	1418	22,338	31				30		91,06	8,877			8,877
SUB TOTAL	\$11,657,512	\$32,092,145	\$46,272,527	6,644	5,118	\$20,751,240	\$11,599,100	330	65	\$2,361,223	\$287,578	\$769,325	\$519,099	\$12,955,925

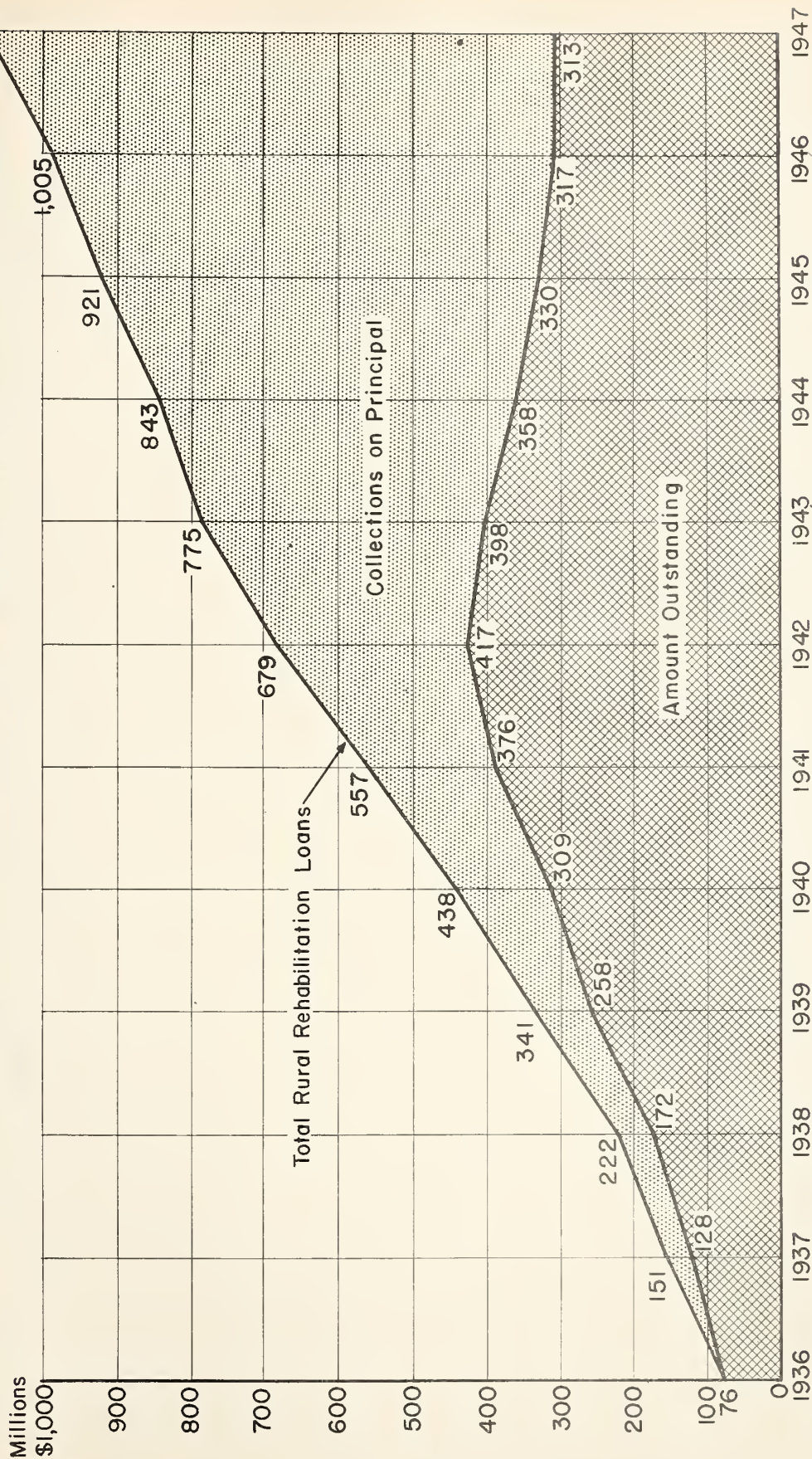
LIQUIDATED

Alabama														
Coffee Farms, Coffee and 4	519,098	1,279,338	1,818,366	293	213	512,502	681,098	77						736,737
West Central Alabama Farms, Tuscaloosa	1,200	4,204	5,504	1				1						4,204
Arizona														
Alma Rick, Jefferson and Arkansas	126,000	536,596	662,596	63	63	312,300	68,953							72,552
Tomas Farms, Cristoferson	75,000	88,079	163,079	33	31	159,721	12,669*	2						9,204
Pruett Farm, Polkett	78,158	184,771	262,929	56	54	223,754	17,623	1						19,012
California														
Elmwood Retirement Project, Mendocino and 1	114,025	126	314,151	5	5	114,194	2,957							2,957
Colorado														
Colorado Saturated Farms, Mesa	1,101	8	1,109	1	1	1,507	396*							396*
Las Animas Farms, Las Animas	1,750	1,750		1	1	1,750								
Florida														
Jacksonville Homesteads, Duval	18,513	809	19,322	1				1		19,322				
Georgia														
Brick Poth Farms, Putnam	56,539	199,157	255,696	30	22	59,285	131,894	7						35,892*
Georgia Saturated Farms, Randolph and Polk	17,117	6,360	23,477	3	3	19,695	4,413		1	44,694				106,220
Pickett Homesteads, Jasper	99,494	551,601	651,095	60	50	160,544	369,748	9		99,431				54,571
Illinois														
Southern Illinois Homesteads, Franklin	26,949	42,731	69,680	1				1		69,680				
Indiana														
Rehabilitation Demonstration Farms, Ripley	4,405	53	4,538	2				2		3,007	1,551			1,551
Kansas														
Kansas Saturated Farms, Jackson and 3	153,295	23,350	176,645	7	16	127,765	24,105							24,105
Northeastern Kansas Farms, Jackson and 3	94,213	94,213	215,898				101,948		1	9,059	1,765	5,341		107,309

PROJECT NAME, COUNTY and STATE	Cost at start	Cost at completion	Total Cost	Total Units Produced	Units sold			Transferred or Conveyed			Sale of Surplus Buildings			Miscellaneous Return of Capital Gain or Loss	
					Farm and Subsidized Units No.	Non-Farm Units	Actual Gain or Loss	Farm and Subsidized Units No.	Non-Farm Units	Actual Gain or Loss	Sale Price per Unit	Cost per Unit	Actual Gain or Loss		
Kentucky Sabine Forest Community, Laurel	\$ 51,200	\$ 360,708	\$ 411,908	71	65	\$ 218,300	\$ 107,332	4	\$ 10,100	\$ 3,466*	1	1	\$ 5,658	\$ 800	\$ 103,066
Louisiana Terrebonne, Terrebonne	315,179	359,749	504,947	62	56	212,520	63,937	6	27,940	56,023			\$ 4,366		121,526 2/
Maine State of Maine Farms, Androscoggin and 11	139,450	229,211	368,664	66	54	106,196	202,138	1	400	1,999	11		56,043	81,065	182,272
Michigan Au Sable Area, Otsego	18,786	2,214	21,007	32	2	1,500	10,204	32	16,520	4,507			1,702		2,805
Michigan Au Sable Area, Otsego	18,786	2,214	21,007	32	2	1,500	10,204	32	16,520	4,507			1,702		2,805
Michigan Au Sable Area, Otsego	18,786	2,214	21,007	32	2	1,500	10,204	32	16,520	4,507			1,702		2,805
Michigan Au Sable Area, Otsego	18,786	2,214	21,007	32	2	1,500	10,204	32	16,520	4,507			1,702		2,805
Michigan Au Sable Area, Otsego	18,786	2,214	21,007	32	2	1,500	10,204	32	16,520	4,507			1,702		2,805
Michigan Au Sable Area, Otsego	18,786	2,214	21,007	32	2	1,500	10,204	32	16,520	4,507			1,702		2,805
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Michigan Au Sable Area, Otsego	18,786	2,214	21,007	32	2	1,500	10,204	32	16,520	4,507			1,702		2,805
Michigan Au Sable Area, Otsego	18,786	2,214	21,007	32	2	1,500	10,204	32	16,520	4,507			1,702		2,805
Michigan Au Sable Area, Otsego	18,786	2,214	21,007	32	2	1,500	10,204	32	16,520	4,507			1,702		2,805
Michigan Au Sable Area, Otsego	18,786	2,214	21,007	32	2	1,500	10,204	32	16,520	4,507			1,702		2,805
Michigan Au Sable Area, Otsego	18,786	2,214	21,007	32	2	1,500	10,204	32	16,520	4,507			1,702		2,805
Michigan Au Sable Area, Otsego	18,786	2,214	21,007	32	2	1,500	10,204	32	16,520	4,507			1,702		2,805
Michigan Au Sable Area, Otsego	18,786	2,214	21,007	32	2	1,500	10,204	32	16,520	4,507			1,702		2,805
Michigan Au Sable Area, Otsego	18,786	2,214	21,007	32	2	1,500	10,204	32	16,520	4,507			1,702		2,805
Michigan Au Sable Area, Otsego	18,786	2,214	21,007	32	2	1,500	10,204	32	16,520	4,507			1,702		2,805
Michigan Au Sable Area, Otsego	18,786	2,214	21,007	32	2	1,500	10,204	32	16,520	4,507			1,702		2,805
Michigan Au Sable Area, Otsego	18,786	2,214	21,007	32	2	1,500	10,204	32	16,520	4,507			1,702		2,805
Michigan Au Sable Area, Otsego	18,786	2,214	21,007	32	2	1,500	10,204	32	16,520	4,507			1,702		2,805
Michigan Au Sable Area, Otsego	18,786	2,214	21,007	32	2	1,500	10,204	32	16,520	4,507			1,702		2,805
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Michigan Au Sable Area, Otsego	18,786	2,214	21,007	32	2	1,500	10,204	32	16,520	4,507			1,702		2,805
Michigan Au Sable Area, Otsego	18,786	2,214	21,007	32	2	1,500	10,204	32	16,520	4,507			1,702		2,805
Michigan Au Sable Area, Otsego	18,786	2,214	21,007	32	2	1,500	10,204	32	16,520	4,507			1,702		2,805
Michigan Au Sable Area, Otsego	18,786	2,214	21,007	32	2	1,500	10,204	32	16,520	4,507			1,702		2,805
Michigan Au Sable Area, Otsego	18,786	2,214	21,007	32	2	1,500	10,204	32	16,520	4,507			1,702		2,805
Michigan Au Sable Area, Otsego	18,786	2,214	21,007	32	2	1,500	10,204	32	16,520	4,507			1,702		2,805
Michigan Au Sable Area, Otsego	18,786	2,214	21,007	32	2	1,500	10,204	32	16,520	4,507			1,702		2,805
Michigan Au Sable Area, Otsego	18,786	2,214	21,007	32	2	1,500	10,204	32	16,520	4,507			1,702		2,805
Michigan Au Sable Area, Otsego	18,786	2,214	21,007	32	2	1,500	10,204	32	16,520	4,507			1,702		2,805
Michigan Au Sable Area, Otsego	18,786	2,214	21,007	32	2	1,500	10,204	32	16,520	4,507			1,702		2,805
Michigan Au Sable Area, Otsego	18,786	2,214	21,007	32	2	1,500	10,204	32	16,520	4,507			1,702		2,805
Michigan Au Sable Area, Otsego	18,786	2,214	21,007	32	2	1,500	10,204	32	16,520	4,507			1,702		2,805
Michigan Au Sable Area, Otsego	18,786	2,214	21,007	32	2	1,500	10,204	32	16,520	4,507			1,702		2,805
Michigan Au Sable Area, Otsego	18,786	2,214	21,007	32	2	1,500	10,204	32	16,520	4,507			1,702		2,805
Michigan Au Sable Area, Otsego	18,786	2,214	21,007	32	2	1,500	10,204	32	16,520	4,507			1,702		2,805
Michigan Au Sable Area, Otsego	18,786	2,214	21,007	32	2	1,500	10,204	32	16,520	4,507			1,702		2,805
Michigan Au Sable Area, Otsego	18,786	2,214	21,007	32	2	1,500	10,204	32	16,520	4,507			1,702		2,805
Michigan Au Sable Area, Otsego	18,786	2,214	21,007	32	2	1,500	10,204	32	16,520	4,507			1,702		2,805
Michigan Au Sable Area, Otsego	18,786	2,214	21,007	32	2	1,500	10,204	32	16,520	4,507			1,702		2,805
Michigan Au Sable Area, Otsego	18,786	2,214	21,007	32	2	1,500	10,204	32	16,520	4,507			1,702		2,805
Michigan Au Sable Area, Otsego	18,786	2,214	21,007	32	2	1,500	10,204	32	16,520	4,507					

UNITED STATES DEPARTMENT OF AGRICULTURE
FARM SECURITY ADMINISTRATION

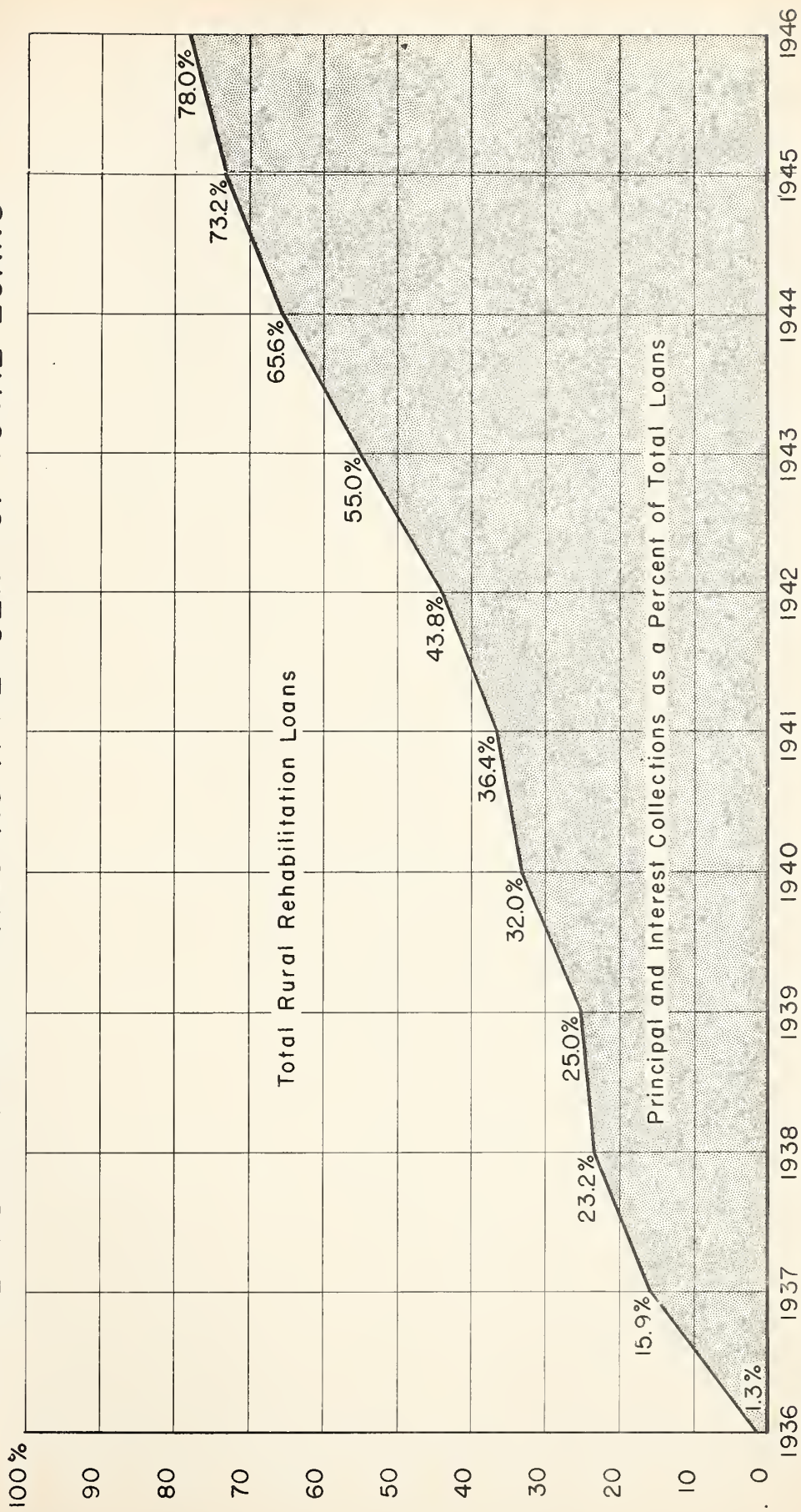
FIG. RURAL REHABILITATION LOANS AND COLLECTIONS BY FISCAL YEARS



Note: In addition to the \$688,690,714 that had been collected on principal as of June 30, 1946, a total of \$95,347,194 had been collected as interest. Figures for fiscal year 1947 are estimated. Includes Water Facilities Loans from Pope-Jones Funds; does not include Corporation Trust Funds.

UNITED STATES DEPARTMENT OF AGRICULTURE
FARM SECURITY ADMINISTRATION

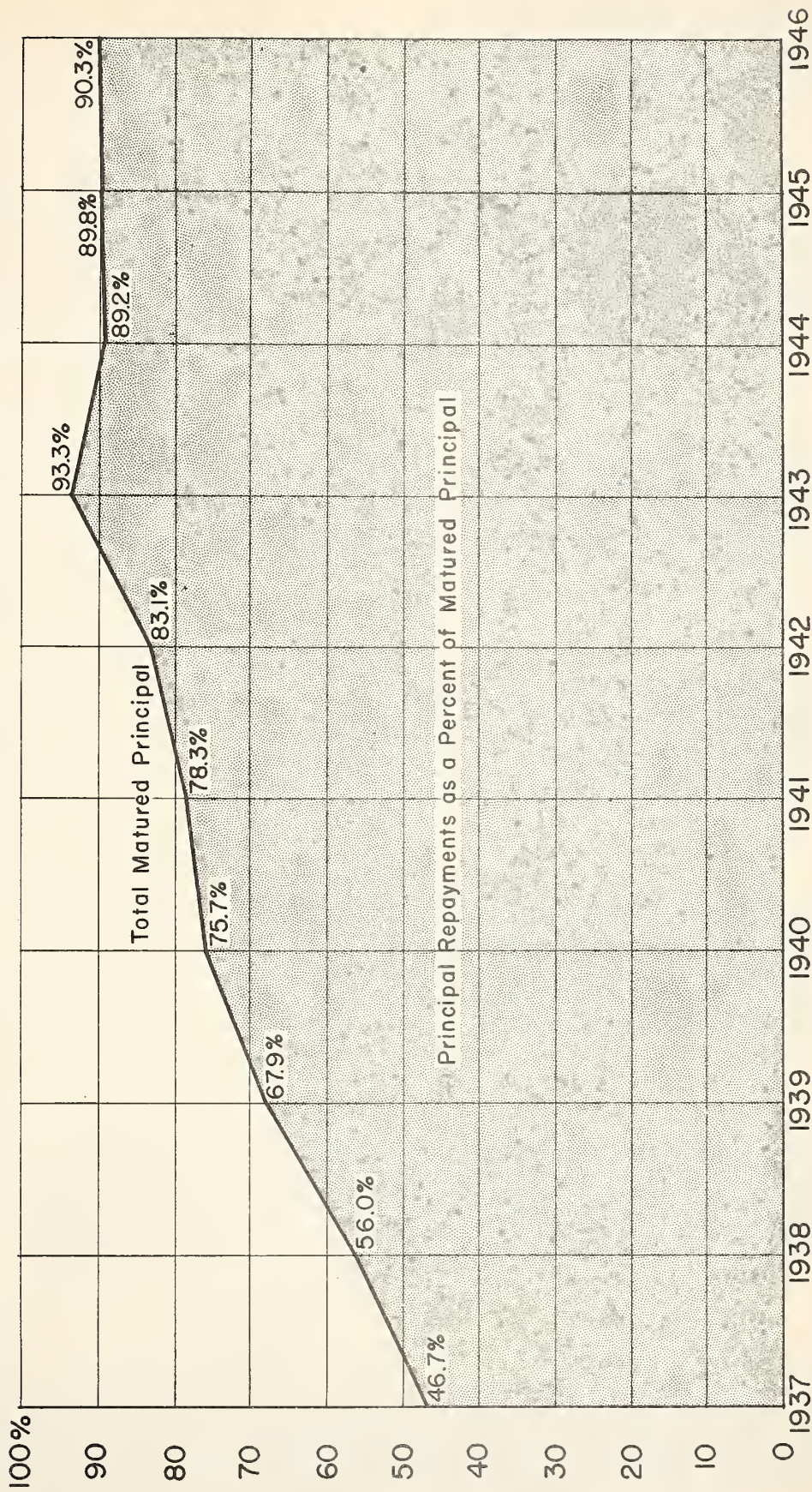
FIG. II TOTAL PRINCIPAL AND INTEREST COLLECTIONS ON RURAL
REHABILITATION LOANS AS A PERCENT OF TOTAL LOANS



NOTE: Corporation Trust Funds are omitted.

UNITED STATES DEPARTMENT OF AGRICULTURE
FARM SECURITY ADMINISTRATION

FIG. ~~III~~ TOTAL PRINCIPAL REPAYMENTS ON RURAL REHABILITATION LOANS AS A
PERCENT OF MATURED PRINCIPAL BY FISCAL YEARS

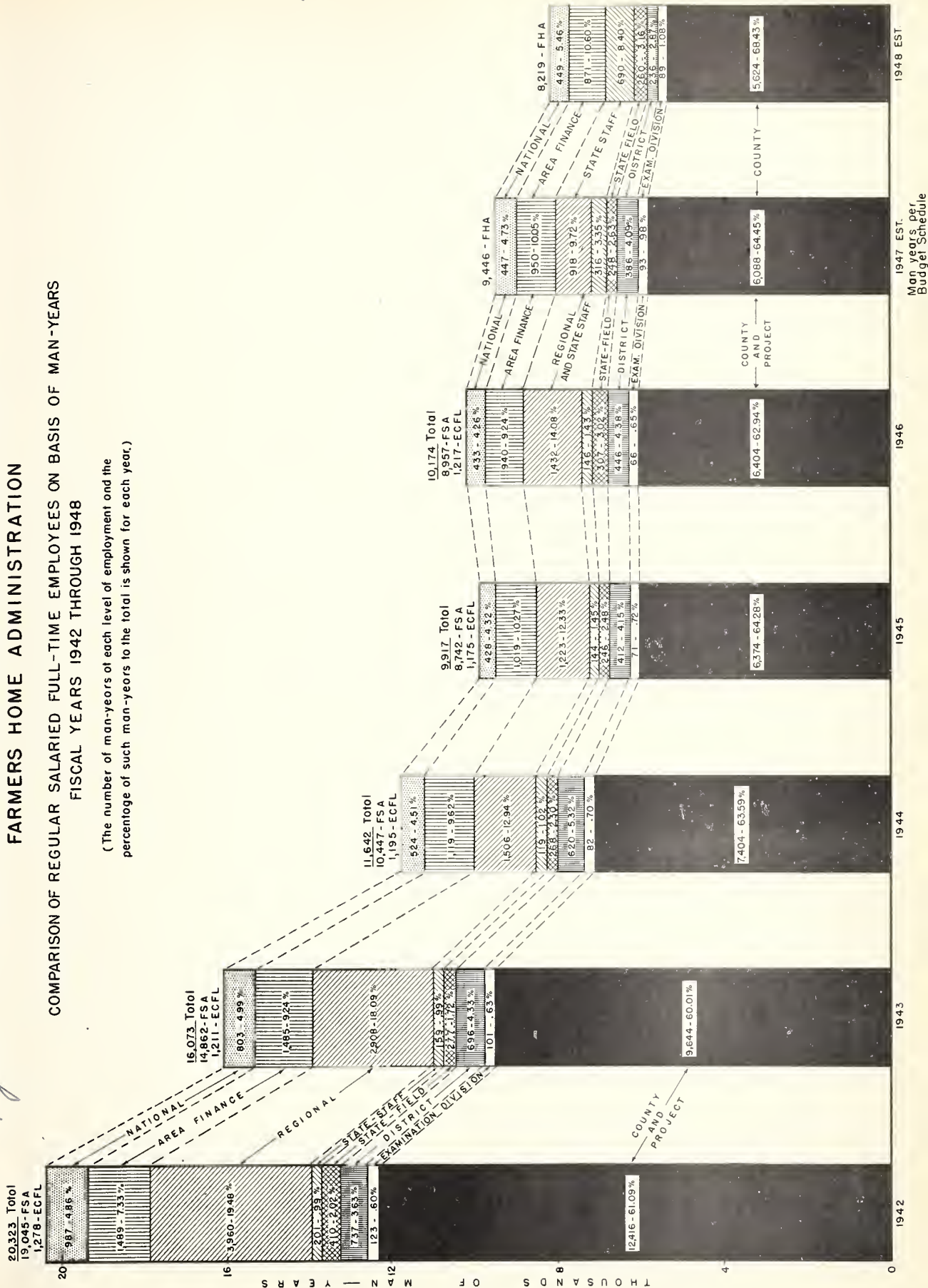


Note: Corporation Trust Funds are omitted.

UNITED STATES DEPARTMENT OF AGRICULTURE FARMERS HOME ADMINISTRATION

COMPARISON OF REGULAR SALARIED FULL-TIME EMPLOYEES ON BASIS OF MAN-YEARS FISCAL YEARS 1942 THROUGH 1948

(The number of man-years of each level of employment and the percentage of such man-years to the total is shown for each year.)



UNITED STATES DEPARTMENT OF AGRICULTURE
FARM SECURITY ADMINISTRATION

Table I

Number of Water Facilities Loans Cumulative as of June 30, 1946

State	Loans to individuals 1/			Supplemental			Groups receiving loans 2/		
	Number	Original	Average amount	Number	Average amount	Number	Average amount		
(1)	(2)	(3)	(4)	(5)	(6)	(7)			
U.S. TOTAL	6,957	\$ 591	1,659	\$ 435	81	\$ 14,448			
Arizona	90	1,127	20	882	4	22,000			
California	215	1,292	52	480	3	19,000			
Colorado	277	750	30	616	14	8,408			
Idaho	446	595	71	419	19	19,611			
Kansas	323	345	41	217	0	0			
Montana	232	623	24	394	4	17,620			
Nebraska	430	624	21	736	0	0			
Nevada	24	1,049	10	665	1	23,000			
New Mexico	182	577	122	372	11	5,445			
North Dakota	222	373	18	346	0	0			
Oklahoma	848	333	270	239	0	0			
Oregon	381	632	50	449	5	17,877			
South Dakota	304	366	22	406	0	0			
Texas	1,766	585	759	461	0	0			
Utah	378	778	44	913	14	15,538			
Washington	288	807	51	601	4	5,378			
Wyoming	591	595	54	407	2	32,000			

Some of these loans are for the purpose of

1/ Some of these loans to individuals were pooled for participation in group services. Includes 3,563 original and 1,060 supplemental loans obligated from Loans, Grants and Rural Rehabilitation funds in the amount of \$ 2,288,972.

2/ Includes 52 associations receiving original loans from Loans, Grants and Rural Rehabilitation funds; \$ 749,902 obligated to associations from these funds.

UNITED STATES DEPARTMENT OF AGRICULTURE
FARM SECURITY ADMINISTRATION

Table 77
Water Facilities Loans and Grants Obligated Cumulative as of June 30, 1946

State	Loans 1/		State	Grants 2/		Loans 1/		Grants 2/	
	(1)	(2)		(1)	(3)	(2)	(3)		
U. S. TOTAL		\$ 6,003,009		\$ 390,962					
Arizona		207,115		4,608	Oklahoma		\$ 346,213		\$ 22,456
California		359,800		1,093	Oregon		352,754		1,184
Colorado		344,047		35,524	South Dakota		120,245		0
Idaho		632,874		33,953	Texas		1,383,403		42,446
Kansas		120,303		3,692	Utah		531,710		22,420
Montana		224,576		4,815	Washington		284,670		3,878
Nebraska		283,593		2,337	Wyoming		437,486		72,488
Nevada		54,829		13,886					
New Mexico		210,366		125,452					
North Dakota		89,027		730					

1/ Includes obligations of \$2,964,135 "Water Facilities in arid and semi-arid areas" and \$3,038,874 from Loans, Grants and Rural Rehabilitation funds.

2/ Includes obligations of \$ 48,902 "Water Facilities in arid and semi-arid areas" and \$ 342,057 from Loans, Grants and Rural Rehabilitation funds.

UNITED STATES DEPARTMENT OF AGRICULTURE
FARM SECURITY ADMINISTRATION

Water Facilities Loans, Maturities and Collections Cumulative as of June 30, 1946 1/

Table III

State	Cumulative Loan Obligations	Cumulative Matured Principal	Cumulative Repayments on Principal	Cumulative Interest Payments	Ratio of		Ratio of Principal Repayments to Matured Principal
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
U. S. TOTAL	\$ 6,003,009	\$ 2,558,676	\$ 2,670,131	\$ 318,952	49.8	49.8	104.4
Arizona	207,115	55,063	55,291	11,291	32.1	32.1	98.8
California	359,800	161,164	168,227	20,315	52.5	52.5	104.6
Colorado	344,047	152,844	151,858	24,188	51.2	51.2	99.4
Idaho	632,874	238,294	246,342	48,557	46.6	46.6	103.4
Kansas	120,303	85,923	81,212	6,127	72.6	72.6	94.5
Montana	224,576	65,991	68,592	9,637	34.8	34.8	103.9
Nebraska	283,595	145,078	149,195	12,516	57.0	57.0	102.8
Nevada	54,829	19,678	17,568	2,420	36.5	36.5	89.3
New Mexico	210,366	89,866	97,598	8,617	48.6	48.6	104.2
North Dakota	89,027	49,618	51,581	3,215	61.5	61.5	104.0
Oklahoma	346,213	186,227	190,170	16,518	59.7	59.7	102.1
Oregon	352,754	158,025	165,708	20,931	52.9	52.9	104.9
South Dakota	120,243	58,156	51,627	3,800	46.1	46.1	88.8
Texas	1,383,403	632,741	696,252	58,874	54.6	54.6	110.0
Utah	551,710	119,104	141,969	29,902	31.2	31.2	119.2
Washington	284,670	137,519	140,787	14,012	54.4	54.4	102.4
Wyoming	437,486	202,485	199,854	28,032	52.1	52.1	98.7

1/ Water facilities loans to individuals and associations. These figures are included in table on Rural Rehabilitation loans, maturities and collections as of June 30, 1946.

STATEMENT OF OBLIGATIONS UNDER SUPPLEMENTAL FUNDS

Item	Obligations, 1946	Estimated Obligations, 1947	Estimated Obligations, 1948
<u>Working Fund, Farmers' Home</u>			
Administration: Advance from			
Veterans Administration for			
expenses in handling and			
certifying applications for			
guaranty of loans for agricul-			
tural purposes under Service-			
men's Readjustment Act	\$60,500:	--:	--
<u>Payments in Lieu of Taxes and</u>			
<u>for Operation and Maintenance</u>			
<u>of Resettlement Projects:</u>			
Trust fund receipts from			
operations of resettlement			
and rural rehabilitation pro-			
jects, which are made avail-			
able for payments in lieu of			
taxes to taxing bodies and for			
operation and maintenance of			
such projects	670,852:	495,209:	350,882
<u>State Rural Rehabilitation Cor-</u>			
<u>poration Funds: Trust funds</u>			
of State RR Corporations, made			
available to the Department			
for rural rehabilitation pur-			
poses within the several			
states, as follows:			
Salaries and expenses	432,836:	1,185,017:	1,110,955
Rural rehabilitation			
projects	39,209:	18,619:	5,650
Loans	16,684,153:	8,150,000:	8,150,000
Total, state corporation			
funds	17,156,198:	9,353,636:	9,266,605
<u>Drainage District Assessments</u>			
<u>on Acquired Lands: Trust</u>			
funds received from vendors			
of land as a reserve fund to			
provide for the payment of			
drainage assessments against			
said land	--:	16,398:	6

Item	Estimated		Estimated
	Obligations, 1946	Obligations, 1947	Obligations, 1948
<u>Liquidation of Deposits,</u>			
Reserve for Maintenance and			
Repairs, Lease and Purchase			
Contracts: Trust funds			
received from purchasers of			
property as a reserve fund to			
provide for maintenance and			
repair of such property in			
accordance with the lease and			
purchase agreement	16,156:	250:	256
<u>Liquidation of Deposits, Lease</u>			
<u>and Purchase Contracts: Trust</u>			
funds received as deposits to-			
ward purchase price of proper-			
ty sold under lease and pur-			
chase agreements, available			
for refund upon conversion of			
the agreement to a deed or for			
application against the deed			
obligation	234,448:	180,000:	90,000
<u>Unclaimed Moneys of Individuals</u>			
<u>Whose Whereabouts are Known:</u>			
Trust funds received through			
deposit of small sums of			
excess repayments of loans,			
available for refund upon sub-			
mission of individual claims..	6:	50:	50
<u>Penalty Mail Costs (Allotment</u>			
<u>to Farmers' Home Administra-</u>			
<u>tion): For cost of penalty</u>			
mail as required by the Act			
of June 28, 1944 (39 U.S.C.			
321d)	157,638:	195,969:	230,000
TOTAL, OBLIGATIONS UNDER			
SUPPLEMENTAL FUNDS	18,295,798:	10,241,512:	9,937,799

RURAL ELECTRIFICATION ADMINISTRATION

The primary function of the Rural Electrification Administration is to make self-liquidating loans for the purpose of financing the construction of electric facilities to persons in rural areas who are not receiving central station service, and also for financing the wiring of premises of persons in rural areas and the acquisition and installation of electrical and plumbing appliances and equipment.

REA loans are made to cooperatives, municipalities, public utility districts and private power companies. The Rural Electrification Act of 1936, as amended, requires that preference be given to States, Territories, and their subdivisions or agencies, municipalities, peoples' utility districts, and cooperative nonprofit, or limited associations.

Including the \$250,000,000 made available for loans by the Agriculture Appropriation Act, 1947, there has been made available to REA for loans a total of \$1,075,428,288. Of this amount, \$13,928,288 was allotted by the President from Emergency Relief funds; \$130,000,000 was appropriated, and \$931,500,000 was borrowed from the Reconstruction Finance Corporation under authorizations carried each year in the annual Agricultural Appropriation Act.

To December 31, 1946, \$958,009,090 had been allocated to 930 cooperatives, 59 public power districts and other public bodies, and 20 private power companies. Allocations for distribution systems amounted to \$848,823,996, \$96,021,231 for generation and transmission facilities, and \$13,163,863 for wiring and plumbing, and other purposes provided by Section 5 of the REA Act. These allocations made provision for 757,424 miles of line and other electric facilities to bring service to 2,327,751 consumers.

As of December 31, 1946, \$595,730,269 had been advanced to borrowers, resulting in 504,105 miles of energized line and the installation of other electric facilities bringing service to 1,675,228 consumers. Principal and interest payments totaled \$126,098,602, including principal repayments of approximately \$20,000,000 which had been made in advance of due date. Interest and principal payments delinquent more than 30 days amounted to \$892,941.

Prior to the enactment of the Department of Agriculture Organic Act of 1944, the Rural Electrification Administration paid interest at 3 percent on funds borrowed from the Reconstruction Finance Corporation. Interest was received by REA from borrowers at a rate that varied from 2.46 to 2.86 percent and averaged 2.68 percent. The interest charged by REA was based on Sections 4 and 5 of the Rural Electrification Act of 1936 which provided that interest be charged at a rate equal to the average rate of interest payable by the Government on its obligations having a maturity of ten or more years issued during the last preceding fiscal year in which any such obligations were issued. The Organic Act of 1944 reduced the amount of interest payable by REA to the Reconstruction

Finance Corporation to 1 3/4 percent, and provided that interest be paid by borrowers to REA at the rate of 2 percent per annum.

In 1935, when the Rural Electrification Administration was established, 11 percent of America's farms were receiving central station electric service, compared with 52.9 percent on June 30, 1946. However, there are still nearly 3,000,000 farms without electricity; continued effort is necessary to assure that the demands of farm people for this essential service will be met.

The following table compares the present REA program, and that proposed for the fiscal year 1948, with the accomplishments of the pre-war years of 1939, 1940 and 1941:

COMPARATIVE DATA
RURAL ELECTRIFICATION ADMINISTRATION PROGRAM

	1939	1940	1946	1947	1948	Percentage Increase 1948 Over 1947	1948 Over 1940	1948 Over 1947
Administrative funds ap- propriated	\$2,350,000	\$2,700,000	\$4,671,965	\$5,550,000 ^{a/}	\$5,600,000	107	107	1
Man-years appropriated	737	845	1,097	1,139	1,139	35	35	-
Loan Authorization	\$140,000,000	\$40,000,000	\$300,000,000	\$250,000,000	\$250,000,000	525	525	-
Amount allocated	\$139,064,513	\$41,736,000	\$290,463,910	\$251,000,000	\$250,000,000	499	499	-
Number of allocations	965	509	1,424	1,250	1,250	146	146	-
Average size of allocations	\$144,108	\$81,996	\$203,977	\$200,000	\$200,000	144	144	-
Amount advanced	\$62,297,014	\$98,297,463	\$87,253,105	\$225,000,000	\$339,800,000	246	246	51
Number of advances	5,757	6,619	4,170	10,260	11,135	68	68	8
Cumulative advances	\$122,337,824	\$221,287,287	\$514,819,843	\$739,819,843	\$1,079,619,843	388	388	46
Average advanced per borrower	\$295,774	\$351,249	\$516,886	\$687,700	\$938,000	167	167	27
Number of borrowers	147	630	996	1,076	1,151	83	83	7
Miles added during year ...	73,494	117,748	50,700	92,000	198,000	68	68	141
Consumers added during year	163,472	281,604	261,700	370,000	535,000	90	90	45
Cumulative miles	115,230	232,978	474,800	556,800	754,800	224	224	36
Cumulative consumers	258,000	549,604	1,549,000	1,919,000	2,454,000	346	346	28
Average energized miles per distribution borrower ...	278	371	555	618	791	113	113	28
Average consumers per distribution borrower ...	647	876	1,809	2,132	2,583	195	195	21

^{a/} Includes \$550,000 required pursuant to Public Law 390.

RURAL ELECTRIFICATION ADMINISTRATION

STATEMENT OF OBLIGATIONS UNDER SUPPLEMENTAL FUNDS

Item	Obligations: 1946	Estimated Obligations: 1947	Estimated Obligations: 1948
Working Fund, Agriculture, Rural Electrification Administration, Advances from Public Buildings Administration: For special allowances to employees incident to their return to Washington D.C. from St. Louis, Missouri	- -	\$44,824:	- -
Penalty Mail Costs, Department of Agriculture (Allotment to Rural Electrification Administration): For cost of penalty mail pursuant to Section 2, Public Law 364, 78th Congress	\$11,396:	14,400:	\$17,800
Cooperation with American Republics (Transfer from State Department): For training in rural electrification of trainees from other American Republics a/.....	27,000:	18,694:	9,484
TOTAL OBLIGATIONS UNDER SUPPLEMENTAL FUNDS	38,396:	77,918:	27,284

a/ Schedule for this item appears in the State Department chapter of the Budget.

FARM CREDIT ADMINISTRATION

(a) Salaries and Expenses

General Statement: The Farm Credit Administration is for the most part a supervisory and regulatory agency charged with the responsibility of administering and coordinating a national program of agricultural credit pursuant to Executive Order 6084, dated March 27, 1933, and the authority subsequently vested in the Administration. The job of the credit institutions operating under the supervision of the Farm Credit Administration is to provide a dependable source of credit where farmers, ranchers, and their cooperative associations can obtain the credit they need on terms best suited to their individual requirements. In addition to the lending programs under its supervision, the Administration provides research and service facilities to farmers' cooperative associations.

This appropriation provides for the general administrative expenses of the Farm Credit Administration in discharging its responsibilities for supervision, coordination, and examination of the banks and corporations under its jurisdiction, the liquidation of the Agricultural Marketing Revolving Fund, and the extension of services to cooperative associations of agricultural producers. The present agricultural lending program under the supervision of the Farm Credit Administration is carried forward through corporations operating in the 12 farm credit districts into which the continental United States is divided.

There follows a brief description of the functions of the respective institutions, funds, or activities:

1. The Federal land banks and national farm loan associations were established pursuant to the provisions of the Federal Farm Loan Act, approved July 17, 1916 (39 Stat. 360). The 12 Federal land banks, established in 1917, under this authority and in conjunction with national farm loan associations, provide farmers with long-term credit for financing the purchase of land, the erection of buildings, the purchase of machinery and equipment, the liquidation of indebtedness incurred for agricultural purposes or incurred two years prior to date of the application for the loan, and for other agricultural purposes. (See Table 4)

2. The Federal intermediate credit banks were established pursuant to the provisions of the Agricultural Credits Act of 1923, approved March 4, 1923 (42 Stat. 1454). The 12 intermediate credit banks, established in 1923, are agricultural banks of discount and are not authorized to make loans to individuals. The loans and discounts made by the banks must be for agricultural purposes and have a maturity at the time they are made or discounted by the banks of not more than three years. (See Table 5)

3. The production credit corporations and associations were established pursuant to the provisions of the Farm Credit Act of 1933, approved June 16, 1933 (48 Stat. 257). The 12 production credit corporations, organized in 1933, were established to organize, to assist in capitalizing, and to supervise the operations of the production credit associations. The associations are composed of farmer-borrowers organized to meet the production credit needs of local agricultural communities by making loans and discounting them with the Federal intermediate credit banks. (See Table 6)

4. The banks for cooperatives were established pursuant to the provisions of the Farm Credit Act of 1933, approved June 16, 1933, (48 Stat. 257). These banks extend credit to cooperative associations of farmers engaged in (1) processing, preparing for market, handling or marketing farm products; (2) purchasing, testing, grading, processing, distributing, or furnishing farm supplies; or (3) furnishing farm business services. In addition to the 12 district banks for cooperatives, there is a Central Bank for Cooperatives which makes loans to farmers' cooperative associations of national or broad regional scope. The division of lending authority between the Central Bank for Cooperatives and the district banks for cooperatives is prescribed by the Governor of the Farm Credit Administration in such manner as best prevents duplication of effort and secures greatest efficiency in extending benefits to borrowers. (See Table 7)

5. The regional agricultural credit corporations were established pursuant to the provisions of the Emergency Relief and Construction Act of 1932, approved July 21, 1932 (47 Stat. 713). These corporations were placed in voluntary liquidation in 1934, following the establishment of the production credit system, and by February 1, 1944, had been consolidated into a single corporation, the Regional Agricultural Credit Corporation of Washington, D. C. Active lending operations have been resumed from time to time since 1941 to meet emergency conditions. It is assumed the Corporation will continue to engage in two distinct phases of lending operations; (a) the making of loans in restricted areas which the Secretary of Agriculture shall designate as regions in which the making of such loans or advances is necessary; and (b) the orderly liquidation of outstanding loans and advances including those made under the food production program of 1943, and the Wenatchee fruit loans. (See Tables 8, 9, and 10)

6. Joint stock land banks were organized pursuant to the provisions of the Federal Farm Loan Act, approved July 17, 1916 (39 Stat. 360). Joint stock land banks are privately capitalized institutions and are managed by officers who are chosen by boards of directors elected by stockholders. They are subject to the general supervision of, and are examined by, the Farm Credit Administration. The Emergency Farm Mortgage Act of 1933, approved May 12, 1933 (48 Stat. 46), provided that after that date no joint stock land bank should issue new tax-exempt bonds or

make any farm loans except as might be necessary and incidental to the refinancing of existing loans or bond issues or to the sale of real estate. As of June 30, 1946, there were six joint stock land banks in operation, four of which have adopted plans for voluntary liquidation, and one in receivership. The Emergency Farm Mortgage Act also established a fund to be administered by the Farm Credit Administration to assist the banks in their liquidation. The fund has not lapsed. (See Table 11)

7. The Agricultural Marketing Act, approved June 15, 1929 (46 Stat. 11), authorized the establishment of a revolving fund of \$500,000,000 for use by the Federal Farm Board in making loans to cooperative associations and to stabilization corporations. The purpose of the fund, as expressed in the Act, was to protect, control, and stabilize the currents of interstate and foreign commerce in the marketing of agricultural commodities and their food products. The supervision and administration of the fund were transferred to the Farm Credit Administration by Executive Order No. 6084, dated March 27, 1933. With the organization of the banks for cooperatives in 1933, the fund was placed in liquidation. (See Table 12)

8. The Federal Farm Mortgage Corporation was established pursuant to the provisions of the Federal Farm Mortgage Corporation Act, approved January 31, 1934, (48 Stat. 344), for the following purposes: (1) to provide funds for the making of loans to farmers by the land bank commissioner pursuant to the provisions of Section 32 of the Emergency Farm Mortgage Act of 1933 (48 Stat. 48); (2) to make funds available to the Federal land banks to assist them in their financing during periods of emergency; and (3) to make loans to joint stock land banks. The Act of July 12, 1946 (Public Law 505, 79th Congress) among other things directed the Farm Credit Administration to make a report to the Congress by March 1, 1947, on ways and means of making available to farmers throughout the Federal land bank system, loans similar to those now closed through the Federal Farm Mortgage Corporation. This report is currently being developed and will be submitted on or before March 31, 1947. (See Table 13)

9. Pursuant to the provisions of the Cooperative Marketing Act of 1926 (44 Stat. 802), the Farm Credit Administration renders services to associations of producers of agricultural products and federations and subsidiaries thereof engaged in the cooperative marketing of agricultural products including processing, warehousing, manufacturing, storage, and the cooperative purchasing of farm supplies, credit, financing, insurance, and other cooperative activities.

Current Program: The Farm Credit Administration, in discharging its statutory responsibility for the supervision, coordination, and administration of the various agricultural lending enterprises within its structure, is continuing to keep its services geared to meet the credit needs of farmers and ranchmen. Likewise it is continuing to encourage farmers to gain a safe finan-

cial position and is extending mortgage credit on the basis of normal values and normal income. Special attention is being given to changing agricultural conditions growing out of the termination of the war, and the readjustments necessary in the transition from war to peacetime production. Demands for new credit are being met promptly within farm credit policies, and all assistance possible is being given to the financing and maintaining of a high volume of agricultural production in line with the overall program of the Department of Agriculture.

Selected Data on Operations of Agricultural Lending Programs: There follow schedules which reflect the amount of loans made during the last four years, the amount of loans outstanding as of the end of each such year, the gross assets at the end of each such year, and selected comparative data for each of the programs administered or supervised by the Farm Credit Administration. As indicated in the tables, the volume of new long-term mortgage financing in the fiscal year 1946 continued an upward trend, but remained at a relatively low level, while short-term production financing reflected a small increase and was only slightly below the high level of the 1944 fiscal year. The financing of farmers' cooperatives continued to decline but remained substantially above the level for any period prior to 1944.

FARM CREDIT ADMINISTRATION

Table 1 - Amount of loans and discounts made, by fiscal years, 1944 through 1946, and 6 months ended December 31, 1946

Institution	1944	1945	1946	6 Months ended December 31, 1946
Farm mortgage loans:				
Federal land banks	\$64,999,163	\$80,112,126	\$120,052,143	\$55,241,537
Land Bank Commissioner	31,701,354	40,243,955	14,729,530	6,020,856
Joint stock land banks	488	14,174	149	-
Total	96,701,005	120,370,255	134,781,822	61,262,393
Loans to cooperatives:				
Federal intermediate credit banks a/				
Banks for cooperatives	5,001,608	2,737,093	6,339,353	7,534,208
Agricultural Marketing Act revolving fund a/	416,168,106	379,885,224	341,899,495	261,905,016
Total	1,122,000	759,000	660,000	975,000
	422,291,714	383,381,317	348,898,848	270,414,224
Other loans and discounts:				
Production credit associations a/ b/	502,006,142	500,305,170	560,952,188	287,568,495
Regional agricultural credit corporations a/ c/	25,564,755	12,608,651	6,018,209	402,159
Federal intermediate credit banks (excluding loans to cooperatives) a/	943,331,447	870,906,775	902,959,373	516,046,337
Total	1,470,902,344	1,383,820,596	1,469,929,770	804,015,991
Grand total	1,989,895,063	1,887,572,168	1,953,610,440	1,152,693,608

a/ Includes renewals.

b/ Includes data for associations which have been placed in liquidation.

c/ Includes food production loans and restricted area loans in the amount of \$17,094,514.

d/ Includes food production loans and restricted area loans in the amount of \$5,051,703.

e/ Includes food production loans and restricted area loans in the amount of \$5,696,154.

f/ Includes food production loans and restricted area loans in the amount of \$74,702.

FARM CREDIT ADMINISTRATION

Table 2 - Amount of loans and discounts outstanding as of June 30 for specified years and as of December 31, 1946

Institution	1944	1945	1946	December 31, 1946
Farm mortgage loans:				
Federal land banks	\$1,245,462,792	\$1,061,207,500	\$1,007,645,850	\$944,420,691
Land Bank Commissioner	368,880,901	308,915,338	174,204,350	140,126,759
Joint stock land banks	2,386,288	814,282	130,406	107,821
Total	1,616,729,981	1,370,937,120	1,181,980,615	1,084,655,271
Loans to cooperatives:				
Federal intermediate credit banks	400,000	844,065	1,124,057	4,150,824
Banks for cooperatives	143,013,678	134,859,835	114,549,781	181,550,167
Agricultural Marketing Act revolving fund	2,910,627	2,032,526	2,687,057	2,232,336
Total	146,324,305	137,736,426	118,420,895	187,933,327
Other loans and discounts:				
Production credit associations a/	268,788,911	265,720,722	304,173,350	233,910,274
Regional agricultural credit corporations	b/ 20,561,079	c/ 9,521,715	d/ 3,819,888	e/ 2,559,739
Federal intermediate credit banks (excluding loans to cooperatives)	320,625,910	314,985,521	346,672,648	310,705,327
Total	609,975,900	591,227,958	654,665,886	547,175,340
Grand Total	2,373,030,186	2,099,901,504	1,955,067,396	1,819,763,938

a/ Includes data for associations which have been placed in liquidation.

b/ Includes food production loans and restricted area loans in the amount of \$17,875,771.

c/ Includes food production loans and restricted area loans in the amount of \$7,608,838.

d/ Includes food production loans and restricted area loans in the amount of \$3,420,905.

e/ Includes food production loans and restricted area loans in the amount of \$2,217,988.

FARM CREDIT ADMINISTRATION

Table 3 - Gross assets as of June 30 for specified years and, as of December 31, 1946

Institution	1944	1945	1946	December 31, 1946
Farm mortgage credit:				
Federal land banks	\$1,830,158,948	\$1,368,024,372	\$1,272,796,544	\$1,181,491,138
Federal Farm Mortgage Corporation	631,157,926	346,518,150	199,265,848	163,031,366
Total	2,461,316,874	1,714,542,522	1,472,062,392	1,344,522,504
Short-term credit:				
Production credit corporations	123,191,997	121,174,872	116,980,647	117,078,082
Production credit associations	394,043,775	387,998,220	421,309,042	360,948,361
Federal intermediate credit banks	376,849,653	366,284,570	405,547,056	388,093,952
Banks for cooperatives	230,639,956	238,319,962	237,748,670	300,473,610
Total	1,124,725,381	1,113,777,624	1,181,585,415	1,166,594,005
Institutions in process of liquidation:				
Regional agricultural credit corporations	63,260,923	17,968,488	16,798,747	16,514,273
Agricultural Marketing Act revolving fund ^{b/}	184,680,455	184,480,389	184,516,355	184,545,206
Joint stock land banks	15,717,955	9,043,953	4,441,166	2,542,592
Total	263,659,333	211,492,830	205,756,268	203,602,071
Grand Total	3,849,701,588	3,039,812,976	2,859,404,075	2,714,716,580

^{a/} Preliminary

^{b/} Includes loans to stabilization corporations.

Table 4 - Selected Comparative Data on Federal Land Banks

Item	June 30, 1944	June 30, 1945	June 30, 1946	December 31, 1946
Gross assets	\$1,830,158,948	\$1,368,024,372	\$1,272,796,544	\$1,181,491,138
Loans outstanding:				
Number	450,433	391,721	371,635	347,688
Amount	\$1,245,462,792	\$1,061,207,500	\$1,007,645,859	\$944,420,691
Loans closed during year ended:				
Number	17,178	21,739	26,682	12,662
Amount	\$64,999,163	\$80,112,126	\$120,052,143	\$55,241,537
Loans purchased from FFMC during year ended:				
Number				
Amount				
Repayments of loans during year ended	\$294,522,761	\$249,071,721	\$217,082,194	\$115,598,272
Loans delinquent:				
Number	22,349	18,269	15,820	13,480
Amount	\$66,560,780	\$52,910,760	\$42,417,408	\$37,333,031
Percent of loans delinquent:				
Number	b/ 5.0	b/ 4.7	4.3	3.9
Amount	b/ 5.3	b/ 5.0	4.2	4.0
Real estate and sheriffs' certificates acquired during the year ended:				
Number	859	368	163	34
Investment	\$3,925,949	\$1,582,249	\$744,580	\$126,606

(Continued on next page)

Item	June 30, 1944	June 30, 1945	June 30, 1946	December 31, 1946
Real estate and sheriffs' certificates disposed of during the year ended:				
Number:				
Whole	3,700:	1,920:	723:	a/ 120
Part	230:	103:	32:	a/ 3
Investment	\$16,519,239:	\$8,746,874:	\$7,366,220:	a/ \$622,914
Real estate and sheriffs' certificates on hand:				
Number	2,345:	765:	192:	
Investment	\$11,268,610:	\$3,714,266:	\$994,688:	\$486,720
Bonds outstanding	\$1,095,596,300:	\$685,006,300:	\$719,084,200:	\$706,126,500
Capital stock and surplus paid in -				
United States Government	\$255,227,841:	\$187,640,233:	\$76,882,258:	\$76,803,213
Capital stock owned by borrowers	\$81,881,426:	\$71,028,733:	\$65,790,085:	\$61,917,133

a/ 6 months ended December 31, 1946
b/ Revised.

Table 5 - Selected Comparative Data on Federal Intermediate Credit Banks

Item	June 30, 1944	June 30, 1945	June 30, 1946	December 31, 1946
Gross assets	\$376,849,653	\$366,284,570	\$405,547,056	\$388,093,952
Loans and discounts outstanding	321,025,910	315,829,586	347,856,705	314,856,151
Loans and discounts made during year ended a/	b/ 948,333,052	873,643,868	909,298,726	c/ 523,580,545
Debentures outstanding	285,040,000	265,475,000	306,630,000	291,620,000
Debentures issued during year	439,055,000	395,750,000	423,565,000	c/ 207,135,000
Franchise tax	d/ 231,011	e/ 305,797	f/ 288,018	- -
Capital stock (owned by U.S. Government)	60,000,000	60,000,000	60,000,000	60,000,000
Earned surplus	21,504,874	22,422,264	23,286,317	g/ 23,965,256
Reserve for contingencies	8,325,000	8,775,000	9,090,000	9,090,000

a/ Includes renewals.

b/ Revised

c/ 6 months ended December 31, 1946.

d/ Represents tax for the fiscal year ended June 30, 1944, paid in July 1944.

e/ Represents tax for the fiscal year ended June 30, 1945, paid in July 1945.

f/ Represents tax for the fiscal year ended June 30, 1946, paid in July 1946.

g/ Includes undivided profits in the amount of \$678,939.

Table 6 - Selected Comparative Data on Production Credit Corporations
and Production Credit Associations

Item	June 30, 1944	June 30, 1945	June 30, 1946	December 31, 1946
Production credit corporations:				
Gross assets	\$123,191,997	\$121,174,872	\$116,980,647	\$117,078,082
Production credit associations:				
Gross assets	\$394,013,649	\$387,983,883	\$421,304,234	a/ \$360,943,090
Number of associations	517	514	505	504
Number of members	355,153	369,546	390,748	394,882
Loans made during year ended	\$502,006,142	\$500,305,170	\$560,952,188	b/ \$287,568,495
Loans outstanding	\$268,775,553	\$266,712,538	\$304,170,043	\$237,906,967
Stock owned by members (largely class B)	\$28,229,743	\$31,232,224	\$35,506,615	a/ \$38,075,860
Stock owned by production credit corporations (class A)	\$64,003,085	\$55,700,085	\$47,937,415	\$45,897,915

Note: Excludes data for associations in liquidation of which there were 5, 4, 4, and 4 respectively at June 30, 1944, 1945, 1946, and December 31, 1946.

a/ Preliminary
b/ 6 months ended December 31, 1946.

Table 7 - Selected Comparative Data on Banks for Cooperatives

Item	June 30, 1944	June 30, 1945	June 30, 1946	December 31, 1946
Gross assets	\$230,639,956	\$238,319,962	\$237,748,670	\$300,473,610
Number of borrowing cooperatives	1,328	1,247	1,251	1,294
Loans made during year ended	\$416,168,106	\$379,885,224	\$341,899,495	\$261,905,016
Loans outstanding	\$143,013,678	\$134,859,835	\$114,549,781	\$181,550,167
Advances under CCC programs	\$55,082,392	\$27,585,018	\$33,802,238	\$44,152,183
Advances under CCC programs outstanding	\$19,431,322	\$21,979,020	\$47,437,786	\$49,781,280
Capital stock or guaranty fund owned by borrowers	\$5,485,700	\$5,519,800	\$6,482,000	\$8,471,800
Capital stock owned by U. S. Government	\$177,000,000	\$178,500,000	\$178,500,000	\$178,500,000

a/ 6 months ended December 31, 1946

Table 8.--Progress in liquidation of regular loans outstanding since April 30, 1934

Year	Balance outstanding at beginning of period	Not reduction during period		Balance outstanding at end of period
		Amount	Percent of beginning balance	
1934 (May-December)	\$144,671,174:	\$57,569,415:	39.8	\$87,101,759
1935	87,101,759:	43,701,573:	50.2	43,400,186
1936	43,400,186:	18,112,426:	41.7	25,287,760
1937	25,287,760:	9,695,942:	38.3	15,591,818
1938	15,591,818:	4,510,521:	28.9	11,081,297
1939	11,081,297:	3,076,549:	27.8	8,004,748
1940	8,004,748:	2,149,656:	26.9	5,855,092
1941	5,855,092:	3,001,116:	51.3	2,853,976
1942 (January-June)	2,853,976:	804,144:	28.2	2,049,832
1943 (July 1, 1942 to June 30, 1943)	2,049,832:	1,521,477:	74.2	528,355
1944 (July 1, 1943 to June 30, 1944)	528,355:	325,933:	61.7	202,422
1945 (July 1, 1944 to June 30, 1945)	202,422:	90,671:	44.8	111,751
1946 (July 1, 1945 to June 30, 1946)	111,751:	82,795:	74.1	28,958
1947 (July 1, 1946 to December 31, 1946)	28,956:	10,766:	37.2	18,190

Table 9.--Selected comparative data on Venatchee fruit loans by fiscal years

Item	1944		1945		1946		Accounts ended Dec. 31, 1946
Loans outstanding, beginning of period	\$1,627,579		\$2,465,056		\$1,787,879		\$359,669
Loans made a/	8,431,144		7,550,829		4,300,701		327,457
Repayments a/	7,591,570		8,223,006		5,723,071		374,876
Charge-offs	2,097		--		840		168
Loans outstanding, end of period	2,465,056		1,787,879		359,669		312,082

a/ Includes renewals.

REGION AGRICULTURAL CREDIT CORPORATIONS

Table 10.--Food production loans and restricted area loans, fiscal year, 1945-1946 and 6 months ended December 31, 1946

Item	Food production loans			Restricted area loans	
	F-1 loans	F-2 loans		F-1 loans	F-2 loans
Fiscal year, 1945-1946					
Loans outstanding, beginning of period				\$1,533,711:	\$1,744,676
Loans made a/	\$4,280,450:			4,866:	1,395,453
Repayments a/	317,190:			187,346:	2,334,647
Transfers to assets acquired in liquidation of loans	2,171,411:			26,458:	3,400
Charge-offs	88,101:			197,017:	15,276
Cancellations of special war crop advances	319,059:			562,726:	-
Loans outstanding, end of period	2,019,069:			615,030:	786,806
6 months ended December 31, 1946					
Loans outstanding beginning of period				615,030:	786,806
Loans made a/	2,019,069:			2,381:	52,677
Repayments a/	19,644:			37,161:	567,392
Transfers to assets acquired in liquidation of loans	424,907:			5,491:	1,088
Charge-offs	9,162:			31,935:	7,496
Cancellations of special war crop advances	121,407:			71,580:	-
Loans outstanding, end of period	1,483,237:			471,244:	263,507

a/ Includes renewals.

Table 11 - Selected Comparative Data on Joint Stock Land Banks
(Including banks in receivership)

Item	May 1, 1933	June 30, 1944	June 30, 1945	June 30, 1946	December 31, 1946
Gross assets	\$576,937,505:	\$15,717,955:	\$9,043,953:	\$4,441,166:	\$2,542,592
Number of banks	50:	15:	11:	7:	6
Loans outstanding:					
Number	81,498:	838:	260:	30:	25
Amount	\$438,758,148:	\$2,386,288:	\$814,282:	\$130,406:	\$107,821
Loans delinquent	\$256,549,398:	\$299,401:	\$24,872:	\$9,347:	\$13,337
Percent delinquent	58.5:	12.5:	3.1:	7.2:	12.4
Number of properties held	11,131:	707:	399:	134:	55
Real estate, sheriffs' certificates, purchase money mortgages, contracts and real estate notes receivable	\$108,630,111:	\$11,766,815:	\$7,299,468:	\$2,736,737:	\$2,065,018
Bonds and notes payable	\$501,707,484:	\$17,330,803:	\$8,809,736:	\$6,560,624:	\$176,900

Table 12 - Agricultural Marketing Act Revolving Fund
(Progress in liquidation)

Date	Loans outstanding	Balance of assets acquired in liquidation of loans
May 26, 1933	\$466,242,668	-
December 31, 1933	334,091,770	\$3,464,226
December 31, 1934	146,910,630	299,725
December 31, 1935	115,858,541	606,355
December 31, 1936	121,761,863	594,465
December 31, 1937	98,970,777	9,265,868
December 31, 1938	91,183,004	8,596,988
December 31, 1939	87,207,043	8,073,060
December 31, 1940	a/16,461,370	7,707,201
June 30, 1941	15,643,543	6,978,825
June 30, 1942	12,628,301	7,532,134
June 30, 1943	10,851,956	4,914,177
June 30, 1944	2,910,627	2,745,637
June 30, 1945	2,032,526	2,166,933
June 30, 1946	2,687,057	1,937,190
December 31, 1946	2,232,336	1,839,664

a/ During the year 1940, loans to stabilization corporations were reported to the Comptroller General of the United States for collection, and therefore have been removed from loans outstanding.

b/ Revised.

Table 13 - Selected Comparative Data on Federal Farm Mortgage Corporation

Item	June 30, 1944	June 30, 1945	June 30, 1946	December 31, 1946
Gross assets	\$631,157,926	\$346,518,150	\$199,265,848	\$163,031,366
Loans outstanding:				
Number	294,539	252,797	163,546	135,990
Amount	\$368,880,901	\$308,915,338	\$174,204,350	\$140,126,759
Loans closed during year ended:				
Number	17,781	22,760	15,746	6,916
Amount	\$31,701,354	\$40,243,955	\$14,729,530	\$6,020,856
Repayments of loans during year ended	\$122,313,600	\$96,860,828	\$147,188,249	\$139,290,021
Loans delinquent:				
Number	20,855	16,114	11,847	10,908
Amount	\$32,067,111	\$23,601,689	\$15,729,775	\$11,707,802
Percent of loans delinquent:				
Number	7.1	6.4	7.3	8.0
Amount	8.7	7.6	9.0	8.4
Real estate and sheriffs' certificates acquired during the year ended:				
Number	1,149	452	216	49
Investment	\$4,525,585	\$1,729,173	\$772,627	\$192,473
Real estate and sheriffs' certificates disposed of during the year ended:				
Number:				
Whole	2,546	1,610	621	143
Part	158	95	40	14
Investment	\$10,168,876	\$6,438,054	\$2,755,466	\$616,826

(Continued on next page)

Item	June 30, 1944	June 30, 1945	June 30, 1946	December 31, 1946
Real estate and sheriffs' certificates on hand:				
Number	1,816	645	239	144
Investment	\$6,923,046	\$2,646,955	\$931,775	\$541,599
Bonds outstanding	\$365,000,000	\$108,000,000	\$12,000,000	--
Capital stock	\$100,000,000	\$100,000,000	\$50,000,000	\$25,000,000

- a/ 6 months ended December 31, 1946
b/ Includes loans sold to FLB in the amount of \$66,431,094.
c/ Includes loans sold to FLB in the amount of \$9,574,072.
d/ Revised.

(b) Agricultural Marketing Revolving Fund

This budget schedule reflects actual and estimated transactions under the revolving fund established by the Agricultural Marketing Act of June 15, 1929 (46 Stat. 28). Expenditures out of this fund are to cover loans to cooperative associations solely to protect loans previously made to such associations in order to provide for orderly liquidation of the total indebtedness; for the maintenance of property acquired by foreclosure; and for subscriptions to capital stock of the Banks for Cooperatives. Collections of principal and interest, proceeds from the rental or sale of properties acquired under foreclosure proceedings, and reductions in capital stock of banks for cooperatives are likewise shown.

STATEMENT OF OBLIGATIONS UNDER SUPPLEMENTAL FUNDS

Item	: Obligations, 1946	: Estimated obligations, 1947	: Estimated obligations, 1948
Working Fund, Agriculture, General, Farm Credit Administration: Advance from Public			
Buildings administration for special allowances to employees incident to recentralization from Kansas City, Missouri to Washington, D.C.	\$17,258	\$119,700	- -
Penalty Mail Costs (Allotment to Farm Credit Administration): For cost of penalty mail as required by the Act of June 28, 1944 (39 U.S.C. 321d) ..	16,337	21,250	\$26,350
War Assets Administration (Transfer to Farm Credit Administration): Transfer to cover costs of disposal of surplus agricultural or forest real property	621,420	2,465,368	2,960,000
TOTAL OBLIGATIONS UNDER SUPPLEMENTAL FUNDS	655,015	2,606,318	2,986,350

CLAIMS, JUDGMENTS, AND PRIVATE RELIEF ACTS

This item covers claims of \$99,898 involving the Department of Agriculture during the fiscal year 1946 which were approved by the Congress in various deficiency and supplemental appropriation acts. They may be classified as follows:

- (1) Property Damage Claims--\$5,306.45 for damages to or loss of privately owned property caused by officers or employees of the Government acting within the scope of their official duties. Such claims were submitted to the Congress as authorized by the Act of December 28, 1922 (31 U.S.C. 215), which provided a method for the settlement of claims, not exceeding \$1,000 in any one case, against the Federal Government.
- (2) Judgments, United States Courts--\$10,776.24 for the payment of the final judgments, including costs of suits, which have been rendered under the provisions of the Act of March 3, 1887, entitled "An Act to provide for the bringing of suits against the Government of the United States", as amended by section 297 of the Act of March 3, 1911 (28 U.S.C. 761-765), and which have been certified to the Congress.
- (3) Judgments, United States Court of Claims--\$83,815.01 for payment of the judgments rendered by the Court of Claims and reported to Congress as authorized by Act of March 3, 1911 (28 U.S.C. 254-257); as amended.

MISCELLANEOUS CONTRIBUTED FUNDS, DEPARTMENT OF AGRICULTURE

The total appropriations or estimates of the Department under this trust account are as follows:

1946	\$157,370
1947 (estimated)	159,530
1948 (estimated)	229,000

This item covers funds received or estimated to be received by the Department of Agriculture from private individuals or organizations and from State or local government organizations for carrying out certain cooperative agreements between such individuals or organizations and the Department in connection with its activities, as authorized principally by the Act of July 24, 1919 (5 U.S.C. 67, 563). These funds are deposited in the Treasury of the United States and made available to the Department for expenditures under applicable cooperative agreements. The amounts for 1947 and 1948 are approximate and preliminary only, since it is difficult to estimate accurately what the total receipts will be in any given year.

A distribution of this fund by bureaus is reflected in the Budget schedules of individual bureaus and offices.

Following are a few examples of the types of agreements entered into by the Department and financed by contributed funds:

Cooperatives in California, Idaho, and other Western States	For cooperative white pine blister rust control
California Planting Cotton Seed Distributors of Bakersfield, California	For cooperative cotton seed investigations
Beet Sugar Development Foundation, Fort Collins, Colorado	For the testing of insecticides to control insects affecting sugar beets grown for seed

RETURN OF EXCESS DEPOSITS FOR REPRODUCTIONS OF PHOTOGRAPHS, MOSAICS, AND MAPS

This trust account has been established to refund to farmers or other individuals, etc., any excess amounts deposited into the Treasury for the purchase of aerial or other photographs, mosaics, and maps which have been obtained in connection with the authorized work of the Department. The Department is authorized to sell these reproductions (at not less than their estimated cost) by the Act of February 16, 1938 (7 U.S.C. 1387). Funds for the purchases of these reproductions are deposited into the Treasury and when the actual cost has been determined, the amounts deposited in excess of such costs are refunded to the purchasers from this account. The total appropriations or estimates for such refunds are as follows:

1946	\$3,743
1947 (estimated)	2,914
1948 (estimated)	2,600

A distribution of the funds by bureaus is reflected in the Budget schedules of individual bureaus and offices.

UNCLAIMED MONEYS OF INDIVIDUALS

This account was established under authority of the Permanent Appropriation Repeal Act, approved June 26, 1934 (31 U.S.C. 725e), to provide for refunding small sums representing excess repayments (of less than one dollar) on loans. Such amounts are covered into this trust fund and held until claims are made therefor by the borrowers. The total appropriations or estimates for such refunds are as follows:

1946	\$240
1947 (estimated)	200
1948 (estimated)	200

A distribution of the funds by bureaus is reflected in the Budget schedules of the individual bureaus.







